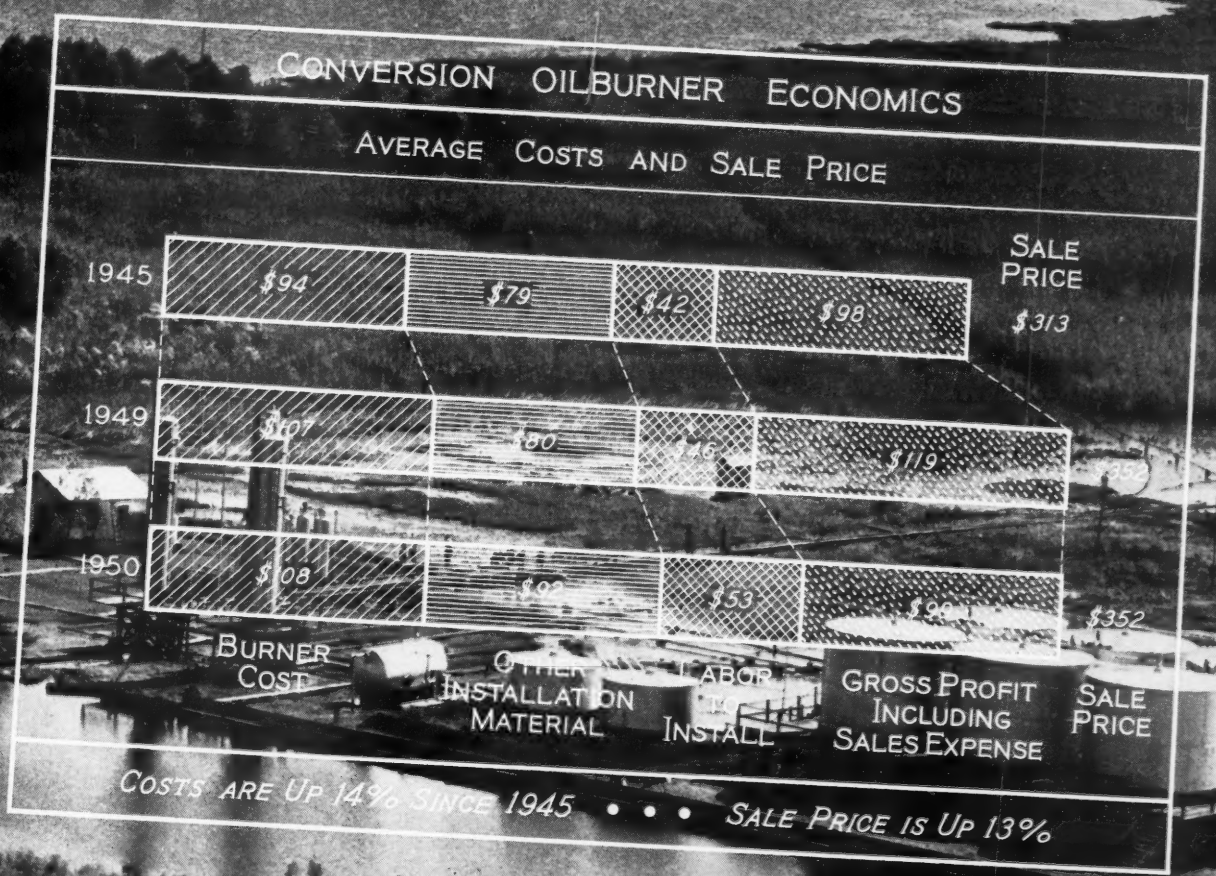
JANUARY
1951

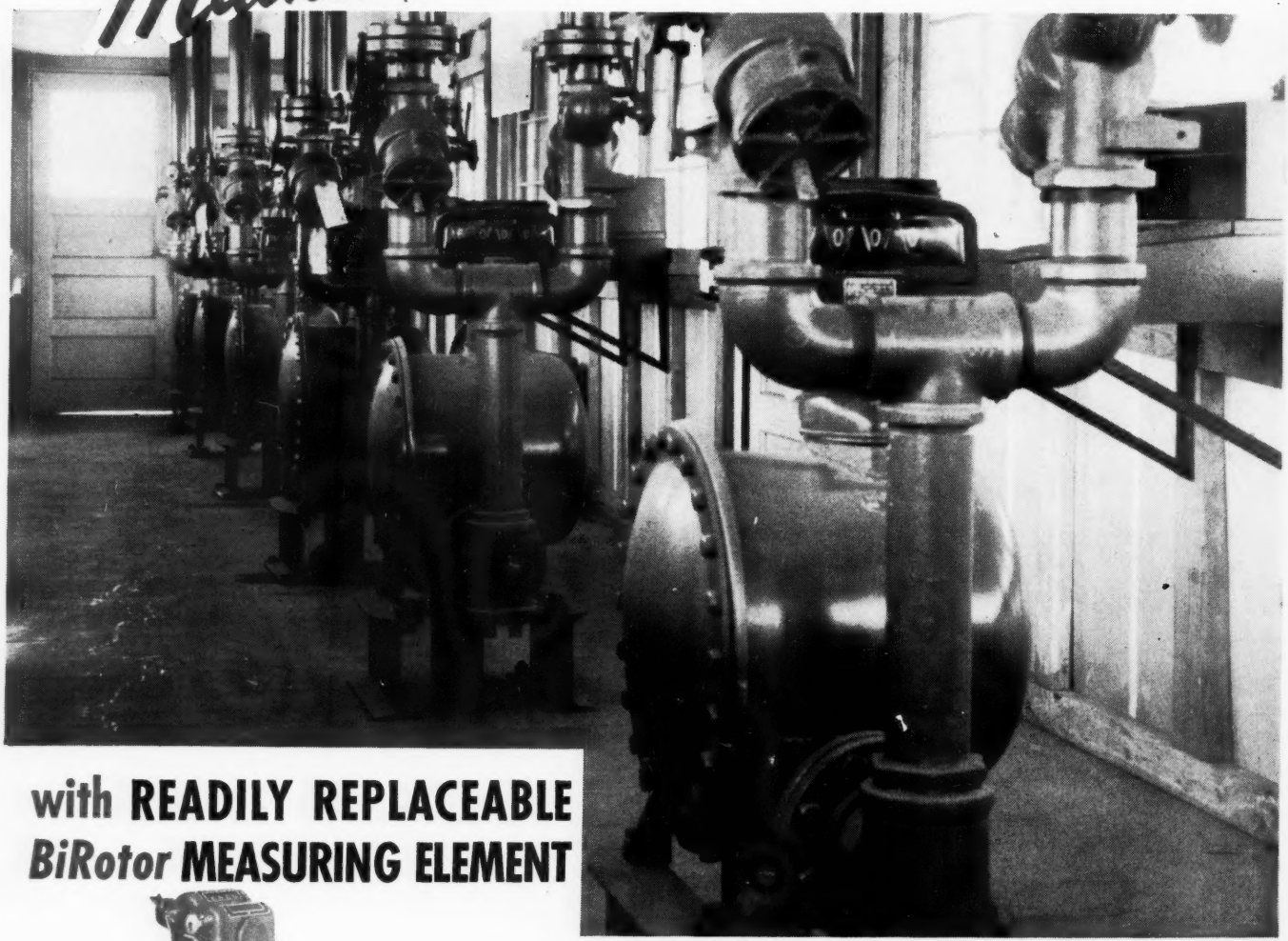
Annual
Oilheating
Analysis

fueloil & oil heat

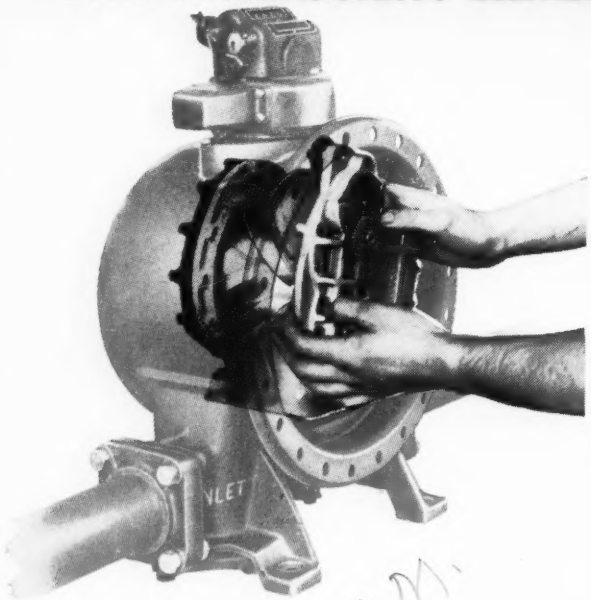
U. OF MICHIGAN
JUL 25 1951
ENGINEERING



Maintenance IS NO PROBLEM



with READILY REPLACEABLE *BiRotor* MEASURING ELEMENT



Martin Oil Service Co., terminal at Blue Island, Illinois employs six Brodie BiRotor Meters for trouble-free heavy duty service.

For maximum service in continuous high-capacity operation there's nothing to equal the dependability and precision-performance of Brodie Bi-Rotor Meters. Comprised of compactly assembled and completely interchangeable self-contained units, Brodie Bi-Rotor meters provide greatest accessibility for quick easy inspection and periodic cleaning —without disturbing existing line connections. Precision dry adjustment in exact increments to 1/20 of 1% can be made while meter is under pressure—and with no loss of liquid. Investigate Brodie Bi-Rotor Meters for your operations, today. Write for full details.

ALL-STEEL *BiRotor* TRUE-ROTARY

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Division Offices: CHRYSLER BLDG., NEW YORK CITY • 59 E. VAN BUREN, CHICAGO 5 • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIFORNIA
302 SOUTH PEARL ST., DALLAS 1, TEXAS • 221-9TH AVE. NORTH, SEATTLE 9, WASH. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

JANUARY fueloil & oil heat 1951

VOLUME 10 NUMBER 1

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YEARLY: $3.00

CANADIAN: $4.00

THIS ISSUE: $1.00

MEMBER CCA

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BY HEATING PUBLISHERS, INC., PUBLICATION OFFICE: 109 MARKET PLACE, BALTIMORE 2, MD. EDITORIAL AND ADVERTISING OFFICES: 232 MADISON AVE., NEW YORK 16, N. Y., SUCCESSOR TO FUELOIL JOURNAL (1922) AND AIR CONDITIONING & OIL HEAT (1928), JANUARY, 1951.
APPLICATION FOR SECOND CLASS ENTRY PENDING AT BALTIMORE, MD.

LEOD D. BECKER, *Chairman, Board of Directors*

ROBERT GRAY, *Editor* — BERT DUNPHY, *Assistant Editor* — A. G. WINKLER, *Advertising Manager*

Lee Steedle, Eastern Advertising Representative

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549 W. Washington Blvd., Chicago 6 Phone: Financial 6-3221

Pacific Coast Representative: Don Harway
1709 West 8th St., Los Angeles 14, Cal. Phone: Dunkirk 2-8576

Among other things:

The first four feature articles this month are statistical. Each January the magazine staff undertakes to bring up to date most of the important oilheating industry figures. Some of these are of principal interest to manufacturers . . . the measurements on volume of the various oilburning equipments, the strength of competitive fuel burners in the different parts of the country, wholesale price trends, types of burners that predominate, and similar things that factory men like to know. These yardsticks all show up in the first article.

The next three articles are also analytical but are of main interest to dealers. One explores general dealer practices in selling and management; the next appraises burner service habits and trends as they develop through the years; the third dealer study is primarily for fueloil departments, getting into margins and costs of operation, wage rates and a dozen other interesting and useful calculations. The staff burned a lot of midnight oil; it's drudgery but we love it.

NOW a complete line of modern MARLOW PUMPS for the petroleum marketer!

A MARLOW FOR EVERY PUMPING JOB

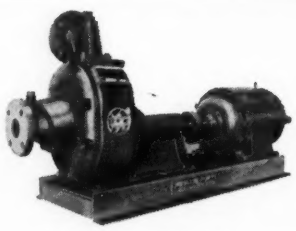
MARLOW CENTRIFUGAL PUMPS

Marlow Type SC

For high capacity and high efficiency in pumping light liquids on flooded suction installations. Close and long-coupled models, sizes 1 to 4 inches, capacities 10 to 1000 GPM. Features include an easily renewable sealing ring at impeller inlet, deep-groove oversize ball bearings, and a John Crane dripless shaft seal. Motors from ½ to 30 HP. Explosion proof or fully enclosed.

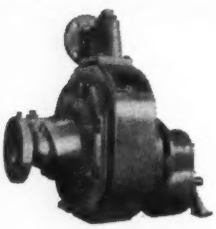
MARLOW SELF-PRIMING CENTRIFUGAL PUMPS

The only light-liquids pump for long, trouble-free service on suction lifts. Marlow Self-Primers offer high capacity and high efficiency with *automatic priming*. Suitable for underground storage or for transfer or loading operations. Close and long-coupled models, sizes 1½ to 10 inches, capacities 15 to 3500 GPM. Self-priming, self-purging design assures automatic priming and freedom from vapor lock. Free clearances at impeller help eliminate wear, prolong life and original high efficiency. Motors ⅓ to 60 HP, explosion proof or fully enclosed.



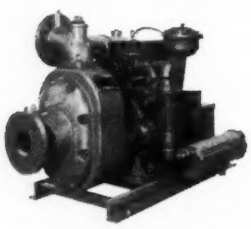
Marlow Type EL

Models also available for belt and engine drive and for high pressure service.



GEAR INCREASER PUMPS

NOW—a quiet, dependable centrifugal tank truck pump that couples direct to power take-off. Installs like a rotary but has a centrifugal's smooth efficiency, high capacity and long life. Sizes 1½, 2 and 3 inch. Capacities 20 to 200 GPM.



ENGINE DRIVEN PUMPS

Marlow Self-Priming Centrifugals for refueling or transfer, where mobility or stand-by operation is required. Sizes 1½ to 8 inches. Capacities 15 to 2000 GPM. 2- and 3-inch sizes available with electric starter and spark arresting muffler for tank truck service.

Write the Marlow factory for complete information and the name of the Marlow dealer nearest you.

MARLOW PUMPS

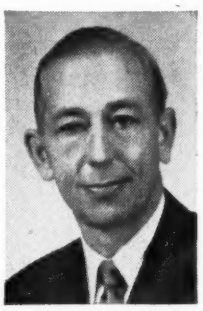
598 Greenwood Avenue, Ridgewood, New Jersey

MANUFACTURERS OF QUALITY PUMPS SINCE 1924

Names in the News

Lon Casler, senior partner in Casler, Hempstead and Hanford, Chicago advertising agency, and public relations director for OHI, became executive vice-president of Eureka-Williams Corp. and manager of its Oil-O-Matic division on January 1. He is also to be a member of the three-man executive committee of the corporation. For the time being, Casler is on leave of absence from his agency. He will continue active in OHI, but the public relations work will be handled by other men in the Chicago agency. Oil-O-Matic has long been one of the industry leaders in burner output. Casler brings to the company a broad experience in the constructive side of oilheating.

Virgil A. Good has become director of sales and manager of research and product development, Burnham Boiler Corp., Irvington, N. Y. He has been with Burnham since 1927, has been general sales manager since 1938. *Harold N. Jones*



Good

Jones

Clark

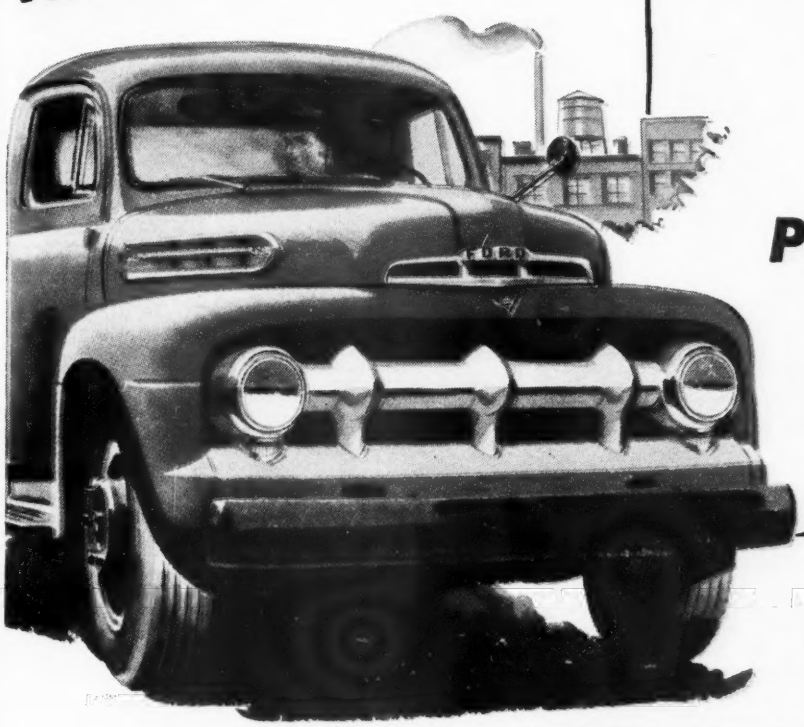
Every truck operator in America should read the full story of the —

NEW FORD TRUCKS for '51

WITH

POWER PILOT

ECONOMY



FORD'S STEP-AHEAD ENGINEERING achieves new economy, new performance. There's a new economy-engineered Ford Truck for your job, or any job. Over 180 models, 95-h.p. Pickups to 145-h.p. BIG JOBS.

Send COUPON today for "WHY IT'S IMPORTANT TO YOU"

The facts on what the proven Ford Truck Power Pilot is, how it saves you money, how it is different from conventional systems, etc., need more space than we have here.

So does all the news about new 5-STAR Cab comfort, new transmissions, new axle ratios, new pistons and camshafts... the new features throughout the Ford Truck line for '51.

But these are all facts that can mean real dollar savings to *you*. Mail the attached coupon today.

Ford Trucking Costs Less Because—

Using latest registration data on 6,592,000 trucks, life insurance experts prove that Ford Trucks last longer!

FREE Send me without cost or obligation, the interesting new leaflet giving full facts on the "Power Pilot," plus specification data on the NEW Ford Trucks for '51 indicated below:

FORD Division of FORD MOTOR COMPANY
3246 Schaefer Rd., Dearborn, Mich.

FULL LINE ☐ HEAVY DUTY MODELS ☐
LIGHT MODELS ☐ EXTRA HEAVY DUTY MODELS ☐

Name_____
(Please print plainly)

Address_____

City_____ Zone____ State____

fueloil & oil heat

succeeds him as general sales manager. Mr. Jones joins Burnham from Montgomery Ward, where he had been eastern sales manager, Plumbing and Heating Div. A third appointment saw *Harry J. Clark,* until recently New York branch manager for Modine Mfg. Co., placed in charge of sales for Burnham in metropolitan New York.

Eldon E. Fox has been named advertising manager, Minneapolis-Honeywell Regulator Co., Minneapolis, Minn. He formerly was account executive for Young & Rubicam, Inc., New York advertising agency, handling the Corning Glass Works and *Time* and *Life* magazine accounts. He joined the agency in 1941 and acted in various departments, interrupted from 1942 to 1945 when he was in service with the Army in this country and in the Pacific Theater.

James M. Bennan, president, Jefferson Electric Co., Bellwood, Ill., recently was elected to the Board of Governors, National Electrical Manufacturers Association. Mr. Bennan has served in various capacities on committees identified with the Specialty Transformer Section of NEMA during the past ten years.

S. H. Levine, district manager for Armstrong Furnace Co., Columbus, Ohio, has transferred to the district encompassing western New York, western Pennsylvania, eastern Ohio and northern West Virginia. Since January 1950 he has managed Armstrong's southern territory. Mr. Levine served three years as an aviation engineering officer in the Navy during World War II, then attended Harvard's graduate school of business, receiving his master's degree in business administration in 1949, before he joined Armstrong.

Sheared to Size for Your COMBUSTION CHAMBERS!

Have your Engineering Department check your percentage of scrap saving!

We are specialists in producing heat-resistant stainless steels for combustion chambers. Whether you are a large or small user of these steels our steel-making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof.

Ingersoll

HEAT-RESISTANT STAINLESS STEELS

Give your combustion chambers all four operating advantages

1. MORE QUIET BURNER OPERATION
2. CLEANER HEAT
3. BETTER TEMPERATURE CONTROL
4. CONSIDERABLE SAVINGS ON FUEL COSTS

Write for additional information

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BORG-WARNER CORPORATION
310 South Michigan Avenue • Chicago 4, Illinois
ENGINEERING B-W PRODUCTION
Plants: Chicago, Illinois • New Castle, Indiana • Kalamazoo, Michigan

AMERICAN-Standard

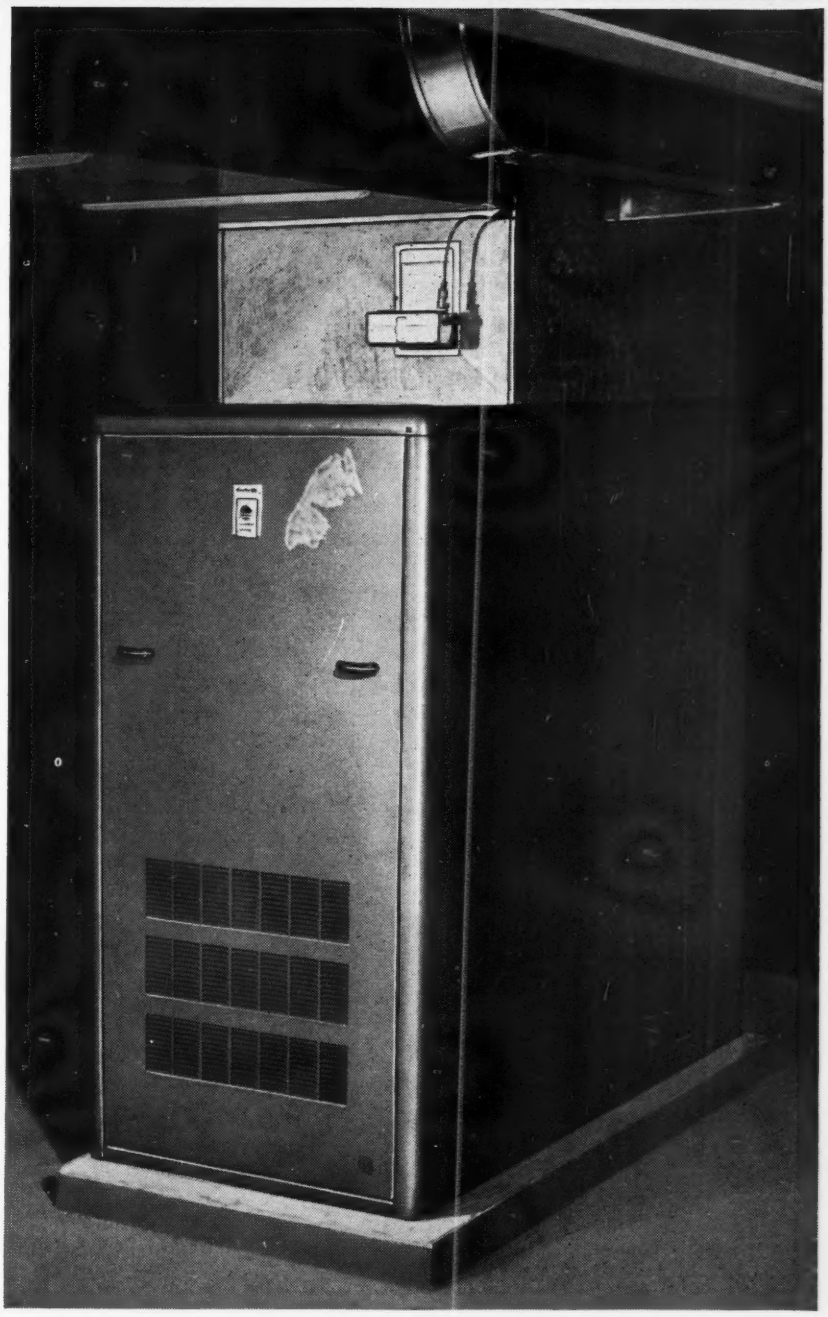
First in heating...first in plumbing

The WINTERWAY

Oil Fired

WINTER AIR CONDITIONER

...just what you need for those remodeling jobs



■ This new basement type winter air conditioner from the Sunbeam line by American-Standard is as handsome and compact as it is efficient.

Available in two sizes—100,000 and 120,000 Btu capacity at register — to meet the needs of small and medium size homes, the Winterway can easily become one of your best sellers.

Its steel heating element consists of a wrap-around type, correctly baffled radiator that completely encircles sturdy shell. Flue gases enter full height opening into radiators, to assure faster heating and eliminate hot and cold spots.

Easily Handled . . . Quickly Installed

When furnished with special flange type Arcoflame Oil Burner, controls and master control switch are prewired for your convenience. Expertly designed universal connection in flue pipe assembly permits either right or left hand outlet. Side jacket panels have knockouts to accommodate the flue pipe. Greater flexibility of installation and shorter flue pipes are possible. A solid base pan with rigid channel supports and leveling screws facilitates installation on uneven floors and reduces problems of leakage.

For complete details of the Winterway Winter Air Conditioner, and information about other Sunbeam warm air units, contact your Wholesale Distributor. **American Radiator & Standard Sanitary Corporation,** P. O. Box 1226, Pittsburgh 30, Pa.

LOOK FOR THIS MARK OF MERIT

Easy Terms Help Sell Modernization Jobs!

As an American-Standard retailer, you can offer your customers the convenience of time payments through the American-Standard Finance Plan. Under existing regulations, heating equipment for modernization can be sold for as little as 10% down and on terms up to 30 months. These terms, being more liberal than those generally prevailing on other major purchase items, serve as an inducement to home-owners to go ahead with permanent home improvements.

Serving home and industry

AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS · DETROIT LUBRICATOR · KEWANEE BOILERS · ROSS HEATER · TONAWANDA IRON

Editorial Leaks

This issue, the annual yearbook number with a large section devoted to industry statistics and analysis, is made possible through the generous cooperation of a significant group of dealers in every section of the country.

On a four-page questionnaire, they answered all of the questions that had application to their particular activities. Some were able to answer all of the questions . . . there were 232 blank spaces to be filled in with figures from their 1950 experiences.

The dealers do this work to help the industry, indirectly to help themselves by making possible an analysis that they can match against their own results. But for whatever reason they do it, they make a praiseworthy contribution to the oilheating industry's progress. On behalf of the thousands of industry men who will be helped by the figures, thanks, dealers, very much.

❖

January is always open season for predictions, forecasts of what an industry can expect in the year ahead. The oilheating industry gets its share, including perhaps too often one from FUELOIL & OIL HEAT. The principal trouble with our's is that they are never optimistic enough. We always sell the industry short.

Dealers throughout the country have given us their views on the outlook in their own neighborhoods. They add up to about 17.5% less installations than the 818 thousand made in the year just closed. But the dealers, like the magazine, have always guessed on the low side. A year ago they estimated that 1950 would see 12% more oilheating sales than 1949; actually they were up 39%. It's fairly safe to say that whatever may hold back oilheating sales in 1951, it won't be the public. With the record high totals for oil and gas installations of nearly two million in 1950, it's clear that the flight from coal is in full cry.

New homes are expected to be off a third. That would normally cut oilheating totals by about 12%. There will be some small effect from the credit controls of Regulation W . . . not much though, for more than half of burner sales are for cash.

The most important retarding influence on burner sales in 1951 will be the copper order, which cuts everything using that material back about 20%, subject of course to hardship appeals. From anything now in sight that will be the strongest cut-back. Later defense or even war developments can change the outlook drastically, but for now it's reasonably safe to budget operations in the oilburner department at 80% of 1950 activities. That points to a little over 650,000 installations, which would be the industry's third best year.

The new copper regulation, cutting out some 300 civilian uses includes a ban on inside installations for heating. In other words, no more complete heating systems with copper lines. Water heating coils are still OK, as are the copper lines on the burner itself. Oil lines to the burner will be permitted in copper.

❖

The F. W. Dodge Corp., in a year-end review and forecast in the name of its president, Thomas S. Holden, included a number of opinions on what's ahead, opinions received from 106 of the nation's top economists.

Eleven per cent of them expect a major war in 1951, 89% do not.

Their over-all view is that sales of passenger cars and trucks will be down 20% in 1951 from 1950. Household equipment, which usually includes oilburners, will be down 15%, they believe. They expect new residential building to be down only 25%, in spite of the planned cut of a third.

They expect the Federal Reserve Board Index of Industrial Production to rise during the year from 210 to 220. They believe the BLS Cost of Living Index will move up from 175 to 180.

On general wage and price controls, 55% expect them; 45% do not.

This important group of men, living with the nation's facts and trends every day, expects no very violent shifts. It will be a year to keep our feet on the ground, but not our eyes.

❖

Speaking before the Interstate Oil Compact Commission in Houston in December, Bruce Brown, Deputy Petroleum Administrator, gave a nod to the gas industry by expressing the view that steel for gas lines is more important than using it for refinery expansion, made necessary to satisfy a new oilheating load.

This remark (reported in Petty's Oil Letter) was unpopular in oilheating circles. Brown no doubt feels that way about it, but his reason for including the statement in his speech was apparently to show the gas crowd that he still remembered them.

The gas industry wanted a separate agency in Government. They didn't want to remain a part of the oil organization, PAD. They were turned down, made unhappy, but as Brown showed them, not forgotten.

At the API convention in November, Chester Smith, Jersey Company vice-president, expressed a view that oilheating men like better.

Smith pointed out that the stimulation of fueloil growth and the necessary refinery expansion to handle it are in the interest of national security.

Smith believes that the best thing we can do is to build up our refining capacity, with fueloil sales providing the necessary economics in peacetime. Then if there comes a war, fueloil demand can be cut by rationing as much as 30%. Then the nation has that much cushion to absorb the war needs.

We much prefer Smith's leanings to Brown's on this particular point. The chances are that neither view will prevail, but rather that daily decisions will keep us in the middle of the road.

The oilheating industry got along well with PAW during the last war; it will get along with PAD by discounting unfavorable statements when possible. PAD will probably have to do the same for us on occasion. Brown is from New Orleans, where gas is dirt cheap. In the East, where it's expensive compared to oil, gas heating is less in the public interest. All of these things will be considered before too much steel is set aside for long lines.

A PROVEN WAY TO OFFSET RISING COSTS

Ten years ago, one of our customers who had equipped all his customers' basement tanks with VENTALARM Signal said this: *"The thing that is important to us is that our operating costs dropped more the first year than the VENTALARM Signals cost us."*

Analyze the extent to which some of those "operating costs" have *risen* during the past ten years.

As against 10 years ago, the initial cost of trucks is up 200%.

As against 10 years ago, the cost of truck maintenance is up 125%.

As against 10 years ago, chauffeurs' wages are up 100%.

Unquestionably, today's savings made possible by the use of VENTALARM Signal are far, far greater than they were 10 years ago. And it is nice to know that during that time the price of VENTALARM Signal itself has increased only 11%! Therefore, it is TWICE as logical and profitable to invest in VENTALARM Signals today as it was 10 years ago! And VENTALARM Signal installations can be treated as an expense item rather than a capital expenditure.

NOW is the time to give your most serious consideration to the equipping of all basement fuel oil tanks with VENTALARM Signal. It is a basic and proven way by which your company can combat and offset rising operating costs. It is a way of oil delivery that allows you to go all-out for that fundamental rule of delivery efficiency — MAXIMUM GALLONS DELIVERED PER MILE OF TRAVEL WITH MINIMUM WASTE OF TRUCK AND DRIVER TIME.

Within the past 3 months, a nationally-known fuel oil company executive wrote this to us: *"With operating costs doubled in the past ten years, it is difficult to see how we could make a satisfactory profit using old-fashioned delivery methods. VENTALARM Signals have eliminated 'not at home' stops, reduced spills to a minimum, simplified degree day work, and made it possible for us to average 24% more gallons delivered per truck per hour on small tank drops."*

DECIDE NOW to equip all old and new accounts with VENTALARM Signal. It is your *proven* way to offset rising costs.

Models for new and old tanks at your regular Supply House. Also available in "2 in 1" Signal-Gauge Combination.

Write for literature and prices **SCULLY SIGNAL COMPANY**
76 First St., Cambridge 41, Mass.

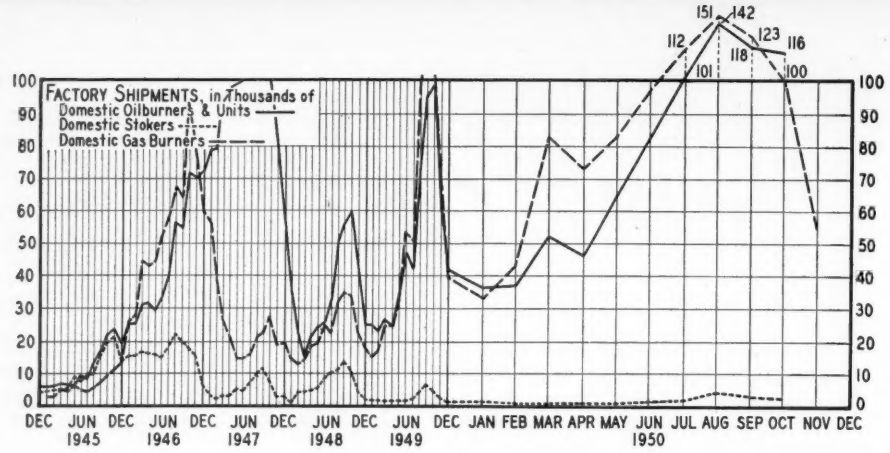
MODEL LC FOR OLD TANKS

1. Saves driver and truck time.
2. Eliminates run-outs.
3. Eliminates repeat calls.
4. Assures properly filled tanks.
5. Makes oil delivery truly automatic.
6. Provides better means of meeting gas competition.

Over 2,000,000 VENTALARM Signals on home fuel oil storage tanks . . . and over 1,000,000 will be standard equipment on automotive gas tanks this year.

VENTALARM®
WHISTLING TANK FILL SIGNAL

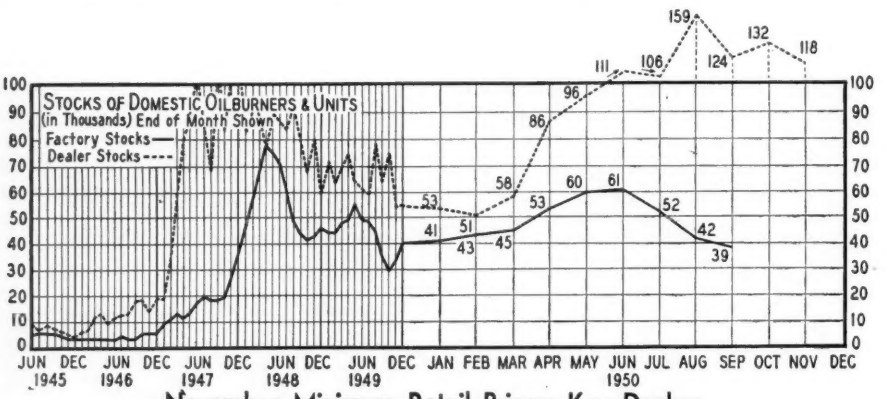
Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
151 142 112 123 116 118 101 100
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT's estimates of shipments are:

	OCTOBER			TEN MONTHS		
	1950	*1949*	*Percent Change*	*1950*	*1949*	*Percent Change*
Conversion	81,807	75,629	+ 8.2	576,907	371,845	+ 55.1
Boiler units	9,844	8,440	+ 16.6	78,002	44,546	+ 75.1
Furnace units	24,041	15,289	+ 57.2	141,158	79,092	+ 78.5
All Domestic	115,692	99,358	+ 16.4	796,067	495,483	+ 60.7
Commercial	4,361	2,707	+ 61.1	28,437	20,970	+ 35.6
Total	120,053	102,065	+ 17.6	824,504	516,453	+ 59.6


STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
159 132 111 106 124 118 96 86 58 53 60 61 53 52 51 41 43 45 42 39
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1945 1946 1947 1948 1949 1950

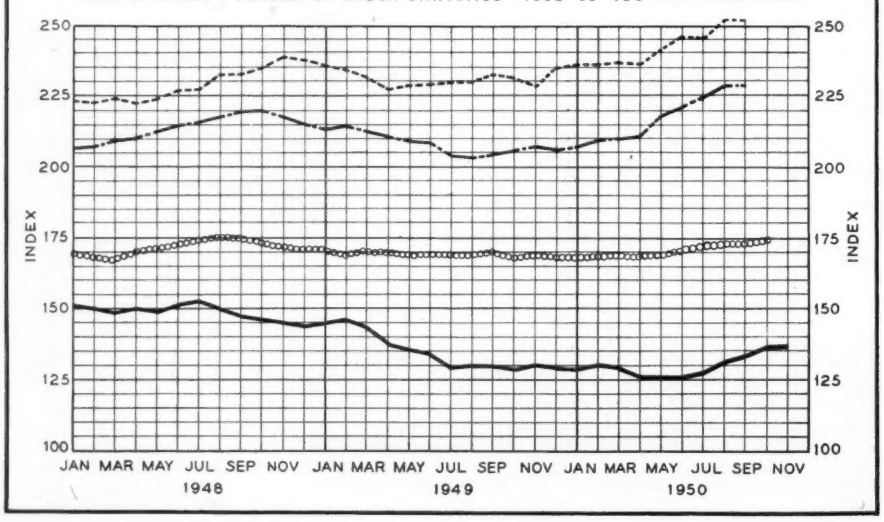
November Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
November Aver.	$319	$661	$610
October Aver.	315	656	599

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
November	134.0	Six months ago	126.6	November	136.3	Six months ago	126.4
October	133.2	Year ago	128.2	October	135.6	Year ago	130.0

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
INDEX
250 225 200 175 150 125 100
JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV
1948 1949 1950

Oilheating Trends

ESTIMATED INSTALLATIONS of domestic oilburners and units in November were 83,964, compared with 55,919 in the same month the previous year. The November installations were divided: New homes 37,722; Replacements of old oilburners 9,275; Conversions from other fuels 36,967. The larger ratio of new home installations is probably due to the fact that during this fall quite a number of gas utilities have reached their limits.

For the eleven months total installations are 747,694, a rise of 39.3% over 536,928 the previous year. By types of installations the eleven month total was: New homes 202,611; Replacements of old oilburners 83,435; Conversions from other fuels 461,648.

BURNER STOCKS: Dealer stocks of domestic oilburners and units on December 1 were approximately 117,960, a small drop from 131,626 the previous month. Factory stocks on September 30 were 38,543, the lowest point in the year.

NEW HOME HEATING: By special request a check was made this month on certain characteristics of heating systems in new homes.

Characteristics of New Homes

	New Eng.	*Mid-Atl.*	*Mid-West*	*Pac. N.W.*	*All U.S.*
With Basements	83%	66%	68%	63%	69%
Use radiant or panel Heating	9%	17	12	1	12
Radiant Heating divided to:					
Floor Type	55%	77	56	89	69
Ceiling Type	45%	23	44	11	31
Have Heating in utility Rooms	11%	23	27	23	22
New Homes using					
Boilers	48%	39	13	9	31
Warm air	52	61	87	91	69
New Homes with baseboard Heating	14%	10	11	7	11

The general implications are fairly well understood but an actual measurement from time to time is of interest. The percentage figures shown in the table are based on estimates of reporting dealers. Their impressions

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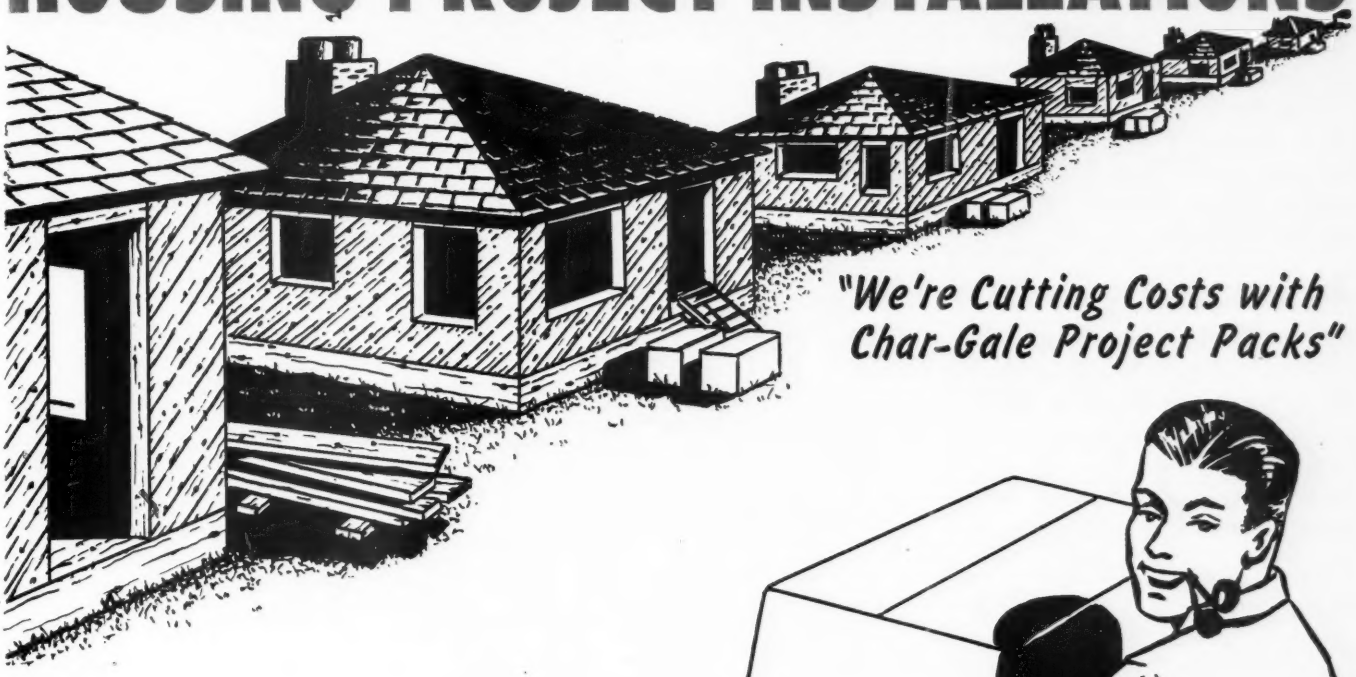

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fuel oil & oil heat

are not limited to their own experience but rather they were asked to estimate the extent of these characteristics applied to all new home construction in their communities.

The percentages do not necessarily tie together but they do fit reasonably well. For example, with 31% of new homes not having basements and 22% having heating plants in utility rooms there would appear to be a 9% gap not accounted for. It is understandable that these may not have central heating plants. The estimates on the number of homes with baseboard heating looks high but if so it is uniformly high in the several sections of the country. Of course, the dealers' concept of baseboard heating includes both boiler and warm air types.

TANK STOCKS: December 1 tank stocks in the hands of oilheating dealers were approximately 75,397, compared with 85,736 on November 1, indicating a fairly comfortable position for this season. The dealer tank stocks were divided by sizes: 220-275 gallon 67,662; 550-675 gallon 5,511; 1000 gallons and larger 2,224. The average price paid by dealers for the 275 gallon size was $44, the same as in the two previous months. It is apparent that the rise from a $28 price in June to the $44 level this fall was enough to offset shortages.

EMPLOYEE WAGES: One of the reporting group has pointed out that we annually report wages of fueloil truck drivers and burner service men but never cover the other types of employees. The table that follows shows by sections of the country the average weekly wages paid to six varieties of workers. Each dealer was asked the lowest and the highest weekly scale for these types. Thus, the table does not show the individual lowest or highest figure mentioned but rather the averages of all dealers for the low and high wage in each classification.

Oilburner* and Building Permits*

	OILBURNERS					DWELLINGS			
	November		11 MONTHS			November		11 MONTHS	
	1950	1949	1950	1949		1950	1949	1950	1949
Albany, N. Y.	82	48	1048	598					
Baltimore, Md.	671	900	4679	5626		550	325	2187	2702
Binghampton, N. Y.	..	..	..	..		10	11	138	103
Bloomfield, N. J.	..	..	..	..		6	5	191	79
Boston, Mass.	..	826	..	5131		26	21	305	325
Bridgeport, Conn.	182	73	1296	973		..	..	..	..
Buffalo, N. Y.	..	..	..	..		37	40	636	404
Columbus, Ohio	7	2	29	..		..	..	..	..
Des Moines, Iowa	..	..	..	..		118	119	1615	1169
Detroit, Mich.	385	144	1992	5919		675	983	11578	11169
Elizabeth, N. J.	123	86	777	536		5	5	59	52
Freeport, N. Y.	23	53	483	344		..	..	..	..
Greenwich, Conn.	..	..	..	..		19	30	370	210
Hackensack, N. J.	..	..	..	..		10	2	186	54
Hartford, Conn.	144	81	1406	965		..	..	..	..
Hudson County, N. J.	..	..	..	..		..	..	..	..
Irvington, N. J.	20	28	543	317		2	6	47	25
Lynn, Mass.	..	..	..	..		7	16	166	196
Meriden, Conn.	26	71	537	334		..	..	..	..
Milwaukee, Wisc.	216	408	2913	3504		292	311	3439	2115
Minneapolis, Minn.	56	182	975	1094		159	263	2018	1743
Montclair, N. J.	18	20	341	251		..	..	..	..
Morristown, N. J.	..	..	..	..		..	..	..	..
Mt. Vernon, N. Y.	31	50	483	420		..	..	..	..
Newark, N. J.	127	144	2264	1686		..	..	..	..
New Bedford, Mass.	86	36	896	655		..	..	..	..
New Haven, Conn.	61	112	640	701		..	..	..	..
New Orleans, La.	..	..	..	..		..	..	..	..
New Rochelle, N. Y.	48	36	377	308		11	8	195	48
New York City (total)	3542	3223	32542	24772		..	..	..	..
Brooklyn-Queens	2819	2499	26028	19163		..	..	..	..
Manhattan, Bronx, Rchd	723	724	6521	5609		..	..	..	..
Norfolk, Va.	115	716	1301	1800		42	190	1297	756
Oakland, Calif.	..	..	..	..		..	..	..	..
Omaha, Nebr.	109	124	1156	1575		52	90	1452	670
Orange, N. J.	25	22	275	200		1	0	18	7
Passaic, N. J.	25	21	378	301		..	..	..	..
Paterson, N. J.	45	43	1018	725		10	8	197	112
Philadelphia, Pa.	1520	1769	13136	9787		..	..	..	..
Plainfield, N. J.	..	..	..	..		12	13	288	135
Portland, Me.	78	43	603	378		11	12	226	128
Portland, Oreg.	399	409	5618	5942		112	165	2383	1870
Poughkeepsie, N. Y.	38	41	244	250		..	..	..	..
Providence, R. I.	126	74	760	624		17	19	295	173
Reading, Pa.	..	..	..	..		5	6	72	62
Richmond, Va.	82	199	1109	971		40	41	692	635
Roanoke, Va.	53	..	1098	..		..	..	..	..
Rochester, N. Y.	179	234	3349	2301		..	..	..	..
Rockville Center, N. Y.	50	34	358	265		11	13	183	108
Salem, Mass.	187	67	574	338		5	4	79	91
St. Louis, Mo.	..	63	..	733		54	76	946	555
St. Paul, Minn.	167	234	2153	2043		125	103	1609	763
Schenectady, N. Y.	48	72	598	486		..	..	..	..
Seattle, Wash.	..	..	..	..		145	152	2628	1537
Springfield, Mass.	..	..	..	..		69	74	731	491
Stamford, Conn.	64	80	880	506		..	..	..	..
Syracuse, N. Y.	..	30	..	638		31	42	565	328
Trenton, N. J.	..	..	..	..		3	0	62	68
Utica, N. Y.	..	..	..	..		16	8	174	84
Washington, D. C.	402	142	1978	1300		..	..	..	..
West Orange, N. J.	..	..	..	..		31	27	453	183
White Plains, N. Y.	60	25	387	259		22	8	209	103
Wilmington, Dela.	158	125	1065	1092		12	4	250	102
Worcester, Mass.	551	161	2979	1506		..	..	..	..
Yonkers, N. Y.	137	93	968	617		..	..	..	..
Totals	10413	10425	95086	82269		2752	3200	37939	29355
Percent Change	—0.1		+15.5			—4.0		+29.2	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

Average Weekly Income of Various Employee Types

	New England		*Mid-Atlantic*		*Midwest*		*Pacific N.W.*		*U.S. Total*	
	Avg. Low	*Avg. High*	*Avg. Low*	*Avg. High*	*Avg. Low*	*Avg. High*	*Avg. Low*	*Avg. High*	*Avg. Low*	*Avg. High*
Stock Room Help	$44	$48	$45	$54	$45	$59	..	..	$45	$54
Bulk Plant Employees	52	59	65	70	53	62	..	..	59	65
Dispatchers or D-D	59	69	64	83	53	74	..	..	60	77
Bookkeepers	40	53	48	62	47	61	$50	$72	46	61
Stenographers	36	42	39	47	40	49	33	52	38	47
Routine Clerical	32	35	37	44	39	45	40	48	37	43

DEALER COMMENTS: These are typical of the month's comments: "About a month ago we raised everybody 10%" . . . "Business very slow with good salesmen scarce" . . . "Some makes of boilers are in very short supply" . . . "Our 49 employees received a salary increase last month."

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To see that your orders are delivered as promised.....
HAROLD WALKER
Assistant Sales Manager

To design and produce equipment that's easy to install and trouble-free .....
RAY QUALLEY *Chief Engineer*

To help you plan installation and application .....
JOHN BOLAND
Assistant Chief Engineer

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CHUCK RAPER
Advertising Manager

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Fueloil supply is just about the only part of the oilheating picture that has not been affected by the Korean war situation.

There is still plenty of fueloil in sight, both light and heavy, according to government and industry economists. They insist there is no danger of oil rationing unless there is an all-out war. And even then, rationing likely would result from a shortage of transportation rather than any lack of oil supplies.

But the oilheating industry—like all others—is bound to be pinched by cutbacks on materials and shortages of skilled workers as the military's requirements are met.

A controlled materials plan—similar to that of World War II—to regulate the use of steel, copper, aluminum, etc. —may be announced any day.

Unwelcome though it is, all business faces the prospect of more and more controls.

Fuel Oil Margins "Squeezed"

The voluntary "freeze" on prices of fueloil and other petroleum products, as of December 18, in response to the request of the Economic Stabilization Administration, caught some distributors in the middle—their buying prices had been raised but their selling prices were still at the old levels.

Representatives of fueloil dealers have taken up the matter with Orville J. Judd (Ex-OPA) who is ESA's oil price director. They have obtained promises that this margin "squeeze" will be considered as soon as ESA completes its analyses of oil prices.

Judd has pointed out that the price "freeze" was intended to head off any more advances and give ESA time to study what to do about oil prices, generally. Later, there may be adjustments to meet specific cases.

Meanwhile, Michigan crude oil buyers have been "persuaded" to withdraw a 12¢ advance after a warning that, if ESA's hand was forced by non-compliance with the voluntary "freeze," ESA might have to issue an order which would roll back all oil prices to an earlier ceiling date, nationwide.

ESA plans to appoint industry committees to consult on oil price matters, drawing mainly from lists of oil men who served under OPA.

ESA Eyes Tanker Rates

Judd has been conferring with other government officials to determine what, if anything, ESA can do about the continuing rise in tanker rates.

East Coast marketers have complained that tanker rates are "squeezing" them with oil prices frozen.

Meanwhile, the government is sponsoring a voluntary tanker "pool" to supply military requirements. Each operator would contribute proportionately to the tonnage needed.

PAD's Staff to Total 400

Revising his estimates, in view of the worsening situation in Korea, Bruce K. Brown (Pan-Am Southern), deputy administrator of the Petroleum Administration for Defense, now figures that by mid-1951 the PAD's staff will reach a total of 400 people.

A supply-transportation division has been set up, covering down to the tank-wagon level; Dene Hodges (Shell) is the director. Brown sees no need now to set up a distribution division.

PAD's Big Job is Materials

Materials for oil and gas is still the big job for PAD, according to Brown. He is now working out stop-gap programs to get materials needed (1) for wildcat and offset wells, (2) to complete refining and other plants needed by the military and (3) to provide equipment required to keep facilities operating.

Otherwise, the petroleum industry is in the same boat with other essential activities, waiting for the setting up of a priorities system.

Brown has assured the gas industry that he doesn't favor taking away steel from new transmission and distribution lines to build refineries to satisfy a new heating load "that could be served with gas."

In saying this, Brown said he realized the inferences might not be pleasing to the oil heating industry.

Right now, PAD is seeking steel for more pressure tank cars to haul avgas and liquefied petroleum gas.

PAD Acts on LPG Shortages

Shortages of LPG tank cars in some areas has presented PAD with its first fuel supply program.

Suppliers were asked to arrange for longer loading hours, prompt unloading and return of empties, maximum use of trucks on short hauls, and exchanges with other suppliers to shorten hauls and avoid cross hauls.

PAD has indicated that other steps will be taken if this voluntary program does not do the job.

May Start Oil Import Race

Under the Venezuelan Trade Agreement that became effective January 1st, about 100 million barrels of crude and fuel oil can be imported at the 10½¢ per barrel rate, with the balance paying 21¢ duty. Since the cut-rate import quota was put on a yearly basis (not month by month), it may prompt a race among importers to bring in the maximum number of cargoes as soon as possible.

Truckers Urge Longer Hours

A survey is under way by the National Tank Truck Carriers of equipment available for over-the-road hauling and hours it is being worked.

Indications are, says the NTTC, that the only way of increasing the carrying capacity is by longer hours of loading and unloading. The Nation's tank truck fleet has doubled in numbers, with the average unit 25% larger, since the end of World War II.

Higher Gas Price OK'd by Court

Some producers view the Supreme Court decision upholding Oklahoma's powers to set minimum prices for gas at the well as an "invitation" for the other states to do likewise.

Cities Service challenged Oklahoma's 7¢ minimum but the court OK'd it, citing, with seeming approval, evidence that the gas then (1947) had a "commercial heat value" in excess of 10¢ at the wellhead in the Guymon-Hugoton Field.

Oilheating had a strong Year

Accelerated Departure from Coal featured the Industry's second best Season

AUTOMATIC HEATING enjoyed its greatest year in 1950. Oil and gas together sold slightly less than two million installations during the year which measured for the first time the public's almost complete rejection of coal as a domestic and commercial heating fuel.

An indication of the swing away from coal is contained in the loss of stokers in use. Though sales of domestic and small commercial stokers totalled less than 20,000 for the year, about 1,900 were replacements of old stokers. But oilburners replaced 32,700 stokers during the year, and gas supplanted 45,000 more, for a net loss of more than 60,100 units.

There were 817,702 domestic oilburners installed in 1950; 1,081,000 gasburners and 19,546 stokers shipped from factories. Oilburner installations were less than 8% below the record of 888,083 in 1947. Gasburner shipments were little short of double the previous record of 1949, and small stoker sales dropped to the lowest level for a non-war year since 1933.

Domestic oilburners and units operating at the end of 1950 increased to a total of 5,146,354, or 14.6% higher than last year. The 655,819 burners added to the number operating accounted for 80.2% of all burners sold in 1950. Fueloil customers lost to other fuels during the year amounted to 68,256, of which 60,879 were lost to gas. And 94,036 of the total installations replaced old oilburners.

Oilburners installed in new homes during 1950 increased to 305,003 or 37.3% of all burners sold. This compares with only 30.2% of all burners installed in new homes during 1949 and 32.2% in the record year of 1947.

Handfired heating installations replaced by oilburners accounted for 46.5% of total oilburner sales, or 380,231 burners, and 32,708, representing an even 4% of total sales, were installed in place of stokers. There were 5,724 gasburners replaced by oilburners, or 0.7% of all burners sold.

Gasheating slightly outsold oil during 1950, and oilburner installations in operation declined to 49.1% of the total automatic heating installations from 50.5% of the total last year. Gasheating now accounts for 39.7% of all automatic heating installations, contrasted to 35.4% of the total in

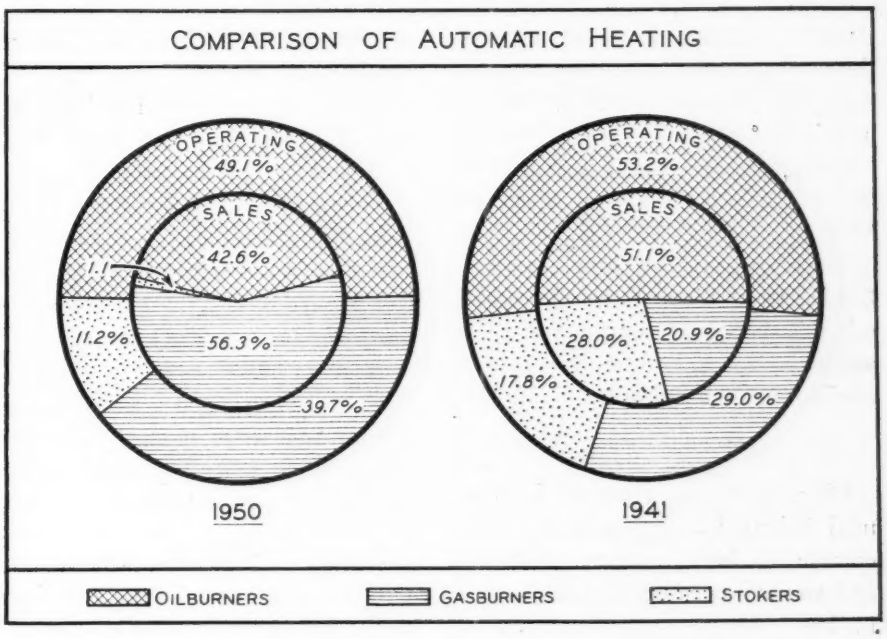


TABLE 1
TOTAL DOMESTIC BURNERS AND UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,012,870
150,510	$55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,517,055
492,593	211,448,000	79,007,100	1946	2,821,044
888,083	418,178,500	156,759,900	1947	3,650,514
455,245	237,385,500	84,114,100	1948	3,975,773
614,712	262,843,600	102,660,700	1949*	4,490,535
817,702	404,051,200	171,657,800	1950	5,146,354

*Revised

1949. Again stokers lost ground and again more were replaced than were sold. The tabulation shows the percentage of the total automatic heating market served by oil, gas and stokers at the end of the last three years:

Operating 12/31/50		*1950* %	*1949* %	*1948* %
5,146,354	Oilburners	49.1	50.5	51.3
4,166,600	Gasburners	39.7	35.4	32.8
1,175,448	Stokers	11.2	14.1	15.9

Table 1 lists the annual total sales of all oilburners, boiler and furnace-burner units used for domestic heating since 1930. Shown also are the wholesale and retail values of the equipment and the number in use at the end of each year. Total installations in 1950 advanced 14.6% over the previous year, while the average unit price increased 15.7%. This is based upon total sales for each year—conversion burners and units. In 1949 the 614,712 burners sold averaged $427 per sale; in 1950 the 817,702 burners installed were at the rate of $494 per unit. Similarly, on the wholesale side the average unit sale in 1950 amounted to $210 and in 1949 it totalled $167, an advance of 25.7%.

Oilburner Types

Changes in the types of burners used indicated a decline in the percentage of high pressure atomizing and vaporizing oilburners, and gains in low pressure types and vertical rotaries. High pressure atomizing still dominates the market, and last year accounted for 70.9% or 579,751, of all burners sold, compared with 75.6% of all sales in 1949. Low pressure burners installed, 13.4% or 109,572 of total sales, increased from 11.5% of the total last year, and vertical rotaries, 10.6% or 86,676 of the total, represented a gain from the 6.9% of the total registered in 1949. Vaporizing installations last year totalled 41,703, 5.1% of total sales, a slight drop from 6.0% in 1949.

The spurt in use of low pressure and vertical rotary burners probably can be attributed to a number of them being installed in new homes of the small ranch and basementless type. Their ability to be fired at rates below 1 gph would make them useful in such applications. This is borne out, too, by reports which showed that the number of burners installed with gallonage rates up to 1.35 gph increased, while those with rates from 1.36 to 1.65 gph decreased.

The table that follows gives a breakdown by types of burners used in the past two years, with an average for the five pre-war years included for comparison.

1950 No.	*1950* %		*1949* %	*Prewar Avg.* %
579,751	70.9	High Press.	75.6	71.7
109,572	13.4	Low Press.	11.5	6.2
86,676	10.6	Vert. Rot.	6.9	11.0
41,703	5.1	Vaporizing	6.0	10.8

Retail and wholesale prices of oilburners increased generally during 1950, with a drop in prices during the first half of the year, a levelling off and then an increase tending to flatten out the curve for the year and bringing the average price close to last year's totals. For comparative purposes the prices included in the table have been computed for a conversion installation with a single basement tank. Retail prices for high pressure burners averaged an increase of 1.5% for the year, while factory prices averaged the same as during 1949.

RETAIL *1950*	RETAIL *1949*		WHOLESALE *1950*	WHOLESALE *1949*
$338	$333	High Press.	$ 97	$ 97
402	397	Low Press.	145	136
390	409	Vert. Rotary	151	135

The average low pressure burner conversion job increased 1.3% in price last year as compared with 1949, while the average wholesale price was reported as up 6.6%. By way of contrast, the average vertical rotary conversion installed in 1950 was sold for 4 6% less than in 1949, while reported wholesale prices showed a jump of 11.9%. The table shows the comparative average prices for both years.

How Burners were used

Conversion burners installed in handfired heating systems required 380,231 oilburners in 1950, 46.5% of total sales, as compared with a total of 305,266 burners in 1949, 53.5% of installations. They still represented the largest number of burner jobs last year, although burners installed in new homes increased in number and percent. New homes took a total of 305,003 burners for domestic central heating in 1950, 37.3% of the total and an increase from the 172,320 or 30.2% installed in new homes during 1949. Only in 1948 was the new

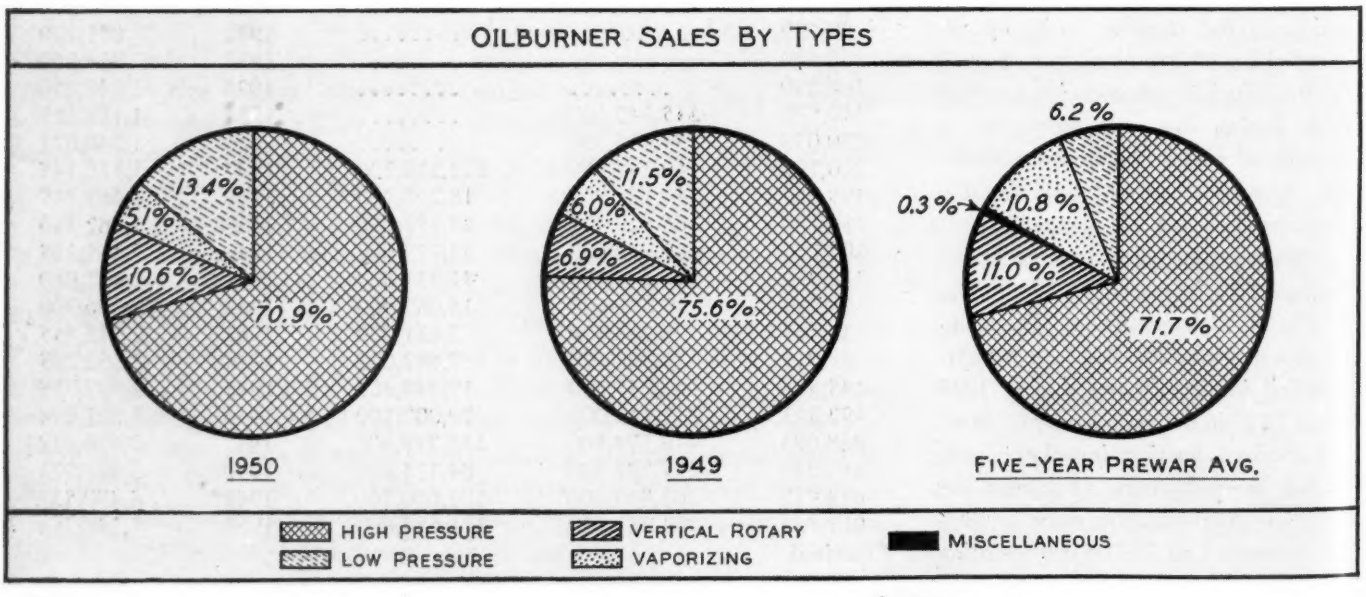
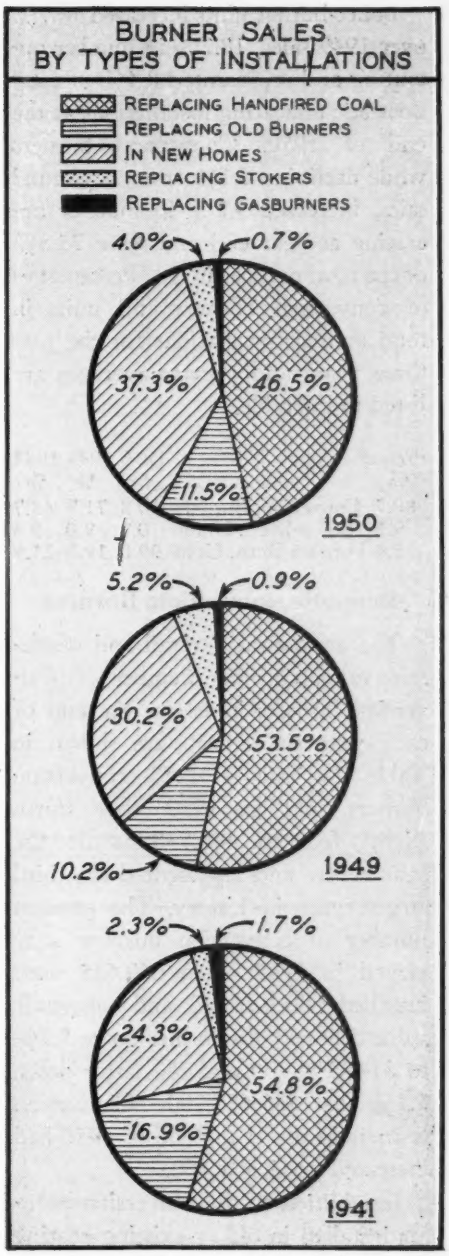


TABLE 2

DOMESTIC CONVERSION OILBURNERS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	$79,400,000	$24,648,000	1930	648,500
104,000	50,310,000	16,640,000	1931	747,300
86,200	36,911,000	12,068,000	1932	827,320
80,800	31,263,000	10,423,000	1933	902,680
98,990	33,116,000	11,681,000	1934	991,980
136,825	43,373,500	13,408,900	1935	1,115,125
197,430	59,229,000	18,558,400	1936	1,281,305
184,920	54,181,600	15,903,100	1937	1,446,295
153,850	40,462,600	12,154,200	1938	1,559,675
200,020	48,004,800	15,601,600	1939	1,719,940
238,845	55,645,900	18,152,200	1940	1,933,605
237,965	59,490,200	19,275,200	1941	2,113,160
71,658	16,552,700	6,090,900	1942	2,073,260
21,363	1,885,800	1,837,200	1943	2,060,465
37,885	10,607,800	4,184,600	1944	2,072,445
119,680	34,292,200	11,249,900	1945	2,173,910
408,861	151,258,100	48,625,800	1946	2,397,554
669,615	262,489,000	83,701,900	1947	3,020,741
312,170	131,735,700	36,523,900	1948	3,208,365
440,748	155,143,300	47,160,000	1949*	3,568,024
415,257	146,170,500	45,678,300	1950	3,901,180

*Revised



homes percentage exceeded. In 1948 new homes took 41.9% of all installations, but total burners used for the purpose amounted only to 190,719.

Replacements of old oilburners levelled off at a near normal 11.5%, or 94,036 burners, in 1950. This compares with 10.2%, or 58,200, used for this purpose in 1949 and 19.9%, or 90,750, in 1948. There were no fueloil shortage scares, either real or imagined, in 1950, so that there was little or no compulsion for people to replace old oilburning equipment. Activity along these lines apparently was a reflection of the sales efforts exerted by individual dealers in their own markets to locate inefficient burners and sell owners on the merits of an up-to-date model to achieve more efficient and economical performance.

The number of stokers replaced by oilburners in 1950 exceeded greatly the total sold. Only 19,546 Class 1 and Class 2 stokers were put in, while 32,708 were taken out and an oilburner substituted. This represented 4% of total burner sales and while it exceeded in number the 29,666 stokers replaced in 1949, it did not match the 5.2% of all installations accounted for in that year.

Gasburners replaced declined to 0.7% from the 0.9% recorded in 1949 and 1948. However, the number replaced increased slightly from 5,141 in 1949 to 5,724.

Oilheating installations lost to other fuels increased substantially in 1950—68,256 against 38,250 in 1949—with gas claiming a lion's share. Losses to gasheating totalled 60,879 or 89.2% of all losses, followed by a loss of 4,302 to handfiring, 6.3% of the total. Other losses included 2,240, or 3.3% of the total, to electricity and 835, or 1.2% of the total, to stokers. Losses to other fuels for the past two years are shown in the table.

	1950	*1949*
Lost to gas	60,879	30,275
Lost to electricity	2,240	5,079
Lost to stokers	835	780
Lost to handfiring	4,302	2,116
	68,256	38,250

Kinds of oilheating Equipment

Conversion oilburners in 1950 accounted for just a little more than half of all equipment sold, 50.8% of the total and representing 415,257 burners. This is a decrease from the 71.7% registered by conversion burners last year. Boiler-burner units increased to 83,341 in 1950, 10.2% of the total up from 9.0% of total sales in 1949, but furnace-burner units made the largest gain, from 19.3% to 39.0%, almost completely at the expense of conversion burners. Integral furnace-burner units totalled 319,104, a whopping 169% increase over the 118,640 furnace units installed in 1949. A substantial increase in the number of units installed in new homes is believed responsible for the jump. At year end integral furnace-burner units operating accounted for 15.7% of total installations, an increase of 46.2% over last year.

Oilburner Replacements

Number	*Year*	*%*
40,936	1940	15.2
56,315	1941	16.9
33,170	1942	33.3
13,910	1943	41.6
38,280	1944	76.7
29,847	1945	20.5
36,540	1946	8.0
58,613	1947	6.6
90,750	1948	19.9
58,200	1949	10.2
94,036	1950	11.5

Boiler-burner uints increased 50.7% over 1949 sales, 18.2% in number operating and represented 8.4% of total domestic oilheating installations at the end of 1950. Conversion burners while declining 6.1% from 1949 total sales, increased 9.3% in number operating at year end and were 75.8% of the total number in use. Percentages of conversion burners and units in total annual installations for the past three years and prewar averages are listed in the table.

Prewar %		1950 %	1949 %	1948 %
80.5	Conversion Burners	50.8	71.7	68.7
9.1	Boiler-Burn. Units	10.2	9.0	9.4
10.4	Furnace-Burn. Units	39.0	19.3	21.9

Domestic conversion Burners

The annual sales, retail and wholesale value and the number of conversion burners in use at the end of each year since 1930 are shown in Table 2. The 415,257 conversion burners sold in 1950 were down slightly from the 440,748 installed the year before and represented the third largest year in history. The greatest number of conversion burners were moved in 1947 when 669,615 were installed. Both retail and wholesale value declined, the former down 5.7% to $146,170,500 and the latter down 3.1% to $45,678,300. Conversion burners in use at the end of 1950 had increased to 3,901,180.

In addition to the conversion burners installed in old or existing heating systems, where dealers used 356,333 burners, they also combined conversion burners with boilers and furnaces and put them in as dealer-assembled units. For this purpose 28,114 conversion burners were used with new boilers and 30,810 were used with new furnaces. These dealer-assembled units are not included in the boiler and furnace-burner tabulations. Those figures are for factory-assembled units only.

The average retail price of conversion burner installations last year remained at $352, the same as reported for 1949. This compares with a 16.6% drop in 1949 from a $422 average in 1948. Average minimum prices dropped 3.0%, from $329 to $319.

Factory prices for conversion burners averaged $108 last year, only a

TABLE 3
INTEGRAL BOILER-BURNER UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,000	.....	.....	1932	3,800
7,800	.....	.....	1933	11,600
9,300	.....	.....	1934	20,890
10,510	$9,511,600	.....	1935	31,400
15,025	9,781,300	.....	1936	46,250
14,430	8,557,000	$3,795,100	1937	60,240
14,220	7,877,900	3,711,400	1938	73,930
19,220	9,744,500	4,286,100	1939	92,540
26,955	13,322,700	5,005,300	1940	118,560
39,990	21,874,500	9,717,600	1941	155,720
9,313	5,289,800	2,877,700	1942	163,040
6,637	1,705,600	2,090,600	1943	164,240
6,440	3,909,100	2,002,800	1944	167,040
9,027	5,984,900	2,491,500	1945	175,165
45,130	34,765,900	18,088,100	1946	219,131
63,054	52,650,000	23,014,700	1947	277,771
42,785	40,260,700	16,600,600	1948	318,417
55,324	43,872,000	20,027,300	1949*	368,286
83,341	62,589,100	26,419,100	1950	435,180

*Revised

TABLE 4
INTEGRAL FURNACE-BURNER UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,175	$2,457,400	.....	1935	5,600
7,620	5,044,400	.....	1936	13,120
11,390	6,526,500	$2,540,000	1937	24,010
11,290	6,243,400	2,427,300	1938	34,140
16,900	8,771,100	3,464,500	1939	49,850
36,410	19,115,300	7,646,100	1940	82,960
55,295	32,181,700	12,939,000	1941	133,180
18,543	8,029,100	5,099,300	1942	149,990
5,445	1,691,900	1,503,200	1943	150,750
5,590	3,471,400	1,464,600	1944	152,780
16,889	8,968,100	4,104,000	1945	167,980
38,602	25,429,000	12,293,200	1946	204,359
155,414	103,039,500	50,043,300	1947	352,002
100,290	65,389,100	30,989,600	1948	447,277
118,640	63,828,300	35,473,400	1949*	554,225
319,104	195,291,600	99,560,400	1950	809,994

*Revised

Table 5. Conversion Burner Price Trends

RETAIL					FACTORY			
Average	*% change prev. yr.*	*Aver. Min.*	*% change prev. yr.*		*Average*	*% change prev. yr.*	*Aver. Min.*	*% change prev. yr.*
$692	..	$554	..	1929	$240	..	..	..
629	— 9.1	516	— 6.8	1930	195	—18.7	..	..
495	—21.3	413	—19.9	1931	160	—18.0	..	..
438	—11.5	371	—10.1	1932	140	—12.5	..	..
395	— 9.8	341	— 8.1	1933	129	— 7.8	$109	..
341	—13.6	310	— 9.0	1934	118	— 8.5	99	— 9.1
317	— 7.0	275	—11.2	1935	98	—16.9	88	—11.1
300	— 5.3	266	— 3.2	1936	94	— 4.1	85	— 3.4
293	— 2.3	255	— 2.6	1937	86	— 8.5	82	— 3.5
263	—10.2	236	— 7.4	1938	79	— 8.1	76	— 7.3
240	— 8.7	218	— 7.6	1939	78	— 1.3	69	— 9.2
233	— 2.9	210	— 3.7	1940	76	— 2.6	63	— 8.7
250	+ 7.2	226	+ 7.6	1941	81	+ 6.9	65	+ 3.2
267	+ 6.8	245	+ 8.4	1942	85	+ 4.9	73	+12.3
276	+ 3.3	247	+ 0.9	1943	86	+ 1.2	76	+ 4.1
280	+ 1.4	258	+ 4.7	1944	98	+13.9	78	+ 2.6
313	+11.8	292	+13.2	1945	94	— 4.1	84	+ 7.7
370	+18.2	294	+ 0.7	1946	119	+26.6	90	+ 7.1
392	+ 6.0	353	+20.1	1947	125	+ 5.0	107	+18.9
422	+ 7.6	349	— 1.1	1948	117	— 6.4	101	— 5.6
352	—16.6	329	— 5.7	1949	107	—14.5	97	— 4.0
352	..	319	— 3.0	1950	108	+ 0.9	97	..

0.9% increase from the 1949 average of $107, and minimum prices remained at $97. Detail of retail and wholesale conversion burner prices for each year since 1929 are listed in Table 5.

Prices for oilburner replacements slumped 8.7% to $242, as compared with $265 in 1949, which was 11.1% below 1948's average. This represented 69% of the average conversion price. Replacements in 1949 sold for 75.3% of the average conversion, 70.6% in 1948 and 74.2% in 1947.

Again this year dealers were requested to list average prices for conversion installations with 1—275 gal. tank, 2—275's, a 550 and 1,000 gal. tank. Averages by areas are shown in the table.

Conversion Burner Price By Size of Tank

	One 275	*Two 275s*	*550*	*1000*
New Eng.	$328	$401	$460	$533
Mid Atl.	344	417	470	557
South	386	433	466	563
Mid West	375	435	469	588
Pacific	352	410	420	550
Total U. S.	352	418	462	559

Complete Boiler-Burner Units

There were 83,341 factory assembled boiler-burner units installed in 1950, an increase of 59.7% over the 55,324 units sold last year. Retail value of all boiler-burner units increased 42.6% to $62,589,100, despite a decrease of 5.3% in the average retail prices. Factory value jumped 31.9% to $26,419,100 from $20,027,300 in 1949. Units operating at the end of 1950 increased to 435,180. The annual sales, along with retail and wholesale value of units sold and the number in use at the end of each year since 1932, are shown in Table 3. Retail prices this year registered a lesser decrease than the 12.4% recorded in factory prices of boiler-burner units.

Table 7 contains figures on total heating boilers sales, both cast-iron and steel, for each year since 1935. In 1950 cast-iron production of heating boilers increased 44%. The total was up 63,481 boilers to 207,756 compared with a 1949 total of 144,275. Steel boilers were off 36,591 units down to a 1950 total of 48,285, compared with 84,876 steel heating boilers produced the previous year. Of total

Table 6. Prices of Factory-Assembled Boiler-Burner Units

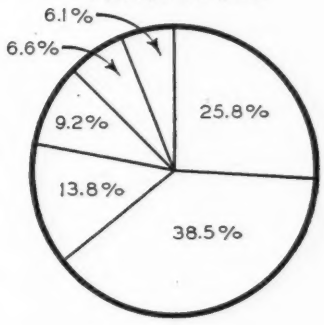
Average	*% change prev. yr.*		*Aver. Min.*	*% change prev. yr.*
		RETAIL		
$905	..	1935	$723	..
651	—28.0	1936	566	—21.7
593	— 8.9	1937	516	— 8.8
554	— 6.5	1938	482	— 6.6
507	— 8.3	1939	441	— 8.5
495	— 2.4	1940	365	—17.2
547	+11.5	1941	378	+ 3.6
568	+ 3.8	1942	473	+25.1
533	— 6.2	1943	361	—23.7
607	+13.9	1944	450	+24.6
663	+ 9.2	1945	539	+19.8
770	+16.1	1946	589	+ 9.3
835	+ 8.4	1947	691	+17.3
941	+12.7	1948	710	+ 2.7
793	—15.7	1949	682	— 4.0
751	— 5.3	1950	661	— 3.1
		FACTORY		
$263	..	1937	$246	..
261	— 0.7	1938	244	— 0.8
223	—14.5	1939	208	—14.7
215	— 3.6	1940	183	—12.0
243	+13.0	1941	201	+ 9.9
309	+27.1	1942	229	+13.4
315	+ 2.0	1943	231	+ 1.0
311	— 1.3	1944	216	— 6.5
276	—11.2	1945	233	+ 7.9
351	+27.2	1946	267	+14.6
365	+ 4.0	1947	310	+16.1
388	+ 6.3	1948	345	+11.3
362	— 6.7	1949	342	— 0.9
317	—12.4	1950	311	— 9.1

Table 7. Heating Boiler Sales

	Total Output	*No. for oil*	*% for oil*
	CAST IRON		
1935	160,105	29,310	18.3
1936	186,560	41,922	22.5
1937	169,707	58,462	34.2
1938	135,282	54,139	40.0
1939	146,919	61,070	41.6
1940	168,839	77,764	46.1
1941	178,076	80,176	45.0
1942	111,875	10,765	9.6
1943	81,500	8,852	10.9
1944	75,760	19,140	25.3
1945	66,740	20,088	30.1
1946	161,667	46,548	28.8
1947	233,905	73,279	31.3
1948	180,345	61,781	34.3
1949	144,275	50,495	35.0
1950	207,756	68,965	33.2
	STEEL		
1935	14,415	14,181	98.1
1936	19,242	18,622	96.8
1937	16,569	15,321	92.7
1938	19,098	17,218	90.3
1939	23,658	21,857	92.4
1940	24,580	23,206	94.5
1941	25,666	24,173	94.2
1942	13,000	7,238	55.7
1943	3,550	1,230	34.7
1944	3,310	2,168	65.5
1945	16,008	10,979	68.6
1946	34,820	33,777	97.0
1947	105,714	94,123	89.0
1948	92,718	82,716	89.2
1949	84,876	74,520	87.8
1950	48,285	42,490	88.0

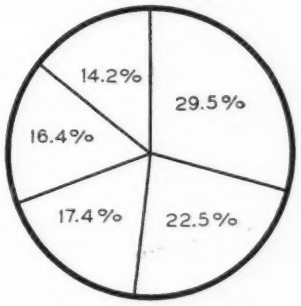
SIZE OF 1950 OILFIRED INSTALLATIONS

FIRING RATES



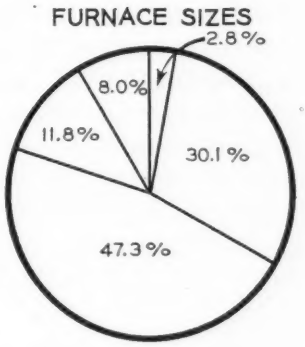
25.8% — *LESS THAN 1.0 GPH*
38.5% — *1.0 TO 1.3 GPH*
13.8% — *1.35 TO 1.6 GPH*
9.2% — *1.65 TO 1.99 GPH*
6.6% — *2.00 TO 2.4 GPH*
6.1% — *2.5 GPH AND LARGER*

BOILER SIZES



29.5% — *LESS THAN 300 SQ.FT.*
22.5% — *300 TO 399 SQ. FT.*
17.4% — *400 TO 499 SQ.FT.*
16.4% — *500 TO 599 SQ. FT.*
14.2% — *600 SQ. FT. AND LARGER*

FURNACE SIZES



2.8% — *LESS THAN 50,000 BTU*
30.1% — *50 TO 74,000 BTU*
47.3% — *75 TO 99,000 BTU*
11.8% — *100 TO 124,000 BTU*
8.0% — *125.000 BTU AND LARGER*

Dealer-Assembled Boiler Units

Cast Iron		Steel	Total
7,039	1942	1,651	8,690
2,240	1943	595	2,835
13,377	1944	1,491	14,868
18,734	1945	3,306	22,040
29,658	1946	5,537	35,195
87,957	1947	17,391	105,348
67,817	1948	32,895	100,712
44,932	1949	28,730	73,662
16,868	1950	11,246	28,114

Table 8. Price Trends of Factory-Assembled Forced-Air Units

Average	% change prev. yr.		Aver. Min.	% change prev. yr.
		RETAIL		
$274	..	1935	$642	—10.2
662	—14.4	1936	576	—10.2
573	—13.4	1937	499	—13.3
553	— 3.5	1938	481	— 3.4
519	— 6.2	1939	402	—16.4
525	+ 1.2	1940	360	—10.4
582	+10.9	1941	402	+11.7
611	+ 4.9	1942	413	+ 2.7
613	+ 0.3	1943	418	+ 1.2
621	+ 1.3	1944	434	+ 3.8
531	—14.5	1945	479	+10.4
659	+24.1	1946	526	+ 9.8
663	+ 0.6	1947	610	+15.9
652	— 1.7	1948	623	+21.3
583	—10.6	1949	538	—13.7
612	+ 5.0	1950	610	+13.4
		FACTORY		
$223	..	1937	$210	..
215	— 3.6	1938	204	— 2.8
205	— 4.7	1939	198	— 2.9
210	+ 2.4	1940	196	— 2.0
234	+11.4	1941	201	+ 2.5
275	+17.5	1942	236	+17.4
276	+ 0.4	1943	241	+ 2.1
262	— 5.1	1944	217	— 9.9
243	— 7.3	1945	239	+10.1
318	+30.9	1946	265	+10.9
322	+ 1.3	1947	297	+12.1
309	— 4.0	1948	304	+ 2.3
299	— 3.2	1949	297	— 2.3
312	+ 4.3	1950	306	+ 3.0

Table 9. Warm Air Furnace Shipments

1949	FORCED AIR	1950
32,827	Coal	33,238
204,256	Oil	353,938
212,123	Gas	511,145
449,206		898,321
	GRAVITY	
168,961	Coal	101,496
15,048	Oil	18,163
86,737	Gas	147,436
270,746		267,095
719,952	Grand Total	1,165,416

Table 10. Commercial Oilheating

Sales		No. Operating (End of year)
14,990	1935	176,240
18,435	1936	192,830
19,380	1937	210,275
13,955	1938	222,880
16,445	1939	237,680
20,710	1940	256,320
34,750	1941	287,595
55,360	1942	293,120
44,470	1943	285,045
30,705	1944	286,680
30,515	1945	288,812
40,498	1946	325,310
48,780	1947	369,210
28,433	1948	393,550
25,220	1949	414,310
33,853	1950	444,778

boiler production of 256,041 units, 111,455 or 43.5% were designed for oil. In 1949 oil-designed boilers represented 54.5% of the total and 52.9% in 1948. Oilfired steel boilers were 88% of 1950's total, virtually the same as 1949's 87.8%; cast-iron boilers for oil were down from 35.0% in 1949 to 33.2% last year.

A breakdown of the sizes of all oilfired boilers installed last year reveals a major increase in boilers rated at less than 300 sq. ft. of net steam, again reflecting the increase in number of new home installations, particularly in small houses. This category increased to 29.5%, compared with 16.6% in 1949. Boilers between 300 and 399 sq. ft. accounted for 22.5% of oilfired boilers in 1950, 31.8% in 1949; between 400 and 499 sq. ft. for 17.4% in 1950, 23.4% the previous year; 500 to 599 sq. ft. for 16.4% last year, 15.6% in 1949 and boilers above 600 sq. ft. increased slightly to 14.2%, compared with the 12.6% these boilers represented in 1949.

The number of dealer-assembled boiler-burner units, broken down into cast-iron and steel types, are shown in the table for each year since 1942. Reversing a trend of recent years, in 1950 dealer-assembled units were only 1/3 of the total shipped as factory-assembled units. In 1949 dealers put together for their own use 43% more boiler units than were shipped complete from the factory.

Dealers paid an average of $317 for factory-assembled boiler-burner units in 1950, a decrease of 12.4% from wholesale levels of the previous year. At retail the units were sold for $751, down 5.3% from $793, average for 1949. In Table 6 are shown average retail and factory prices for factory-assembled boiler units.

Complete Furnace-Burner Units

An estimated 319,104 factory-assembled furnace-burner units were sold by dealers in 1950, an increase of 169% over the 118,640 accounted for the previous year. Retail value registered a substantial increase, too, advancing to $195,291,600, 205.9% more than the retail value of 1949 units. A 180.7% jump in factory value was registered also, that figure being upped to $99,560,400 for the year. Average retail prices were more, going from $583 in 1949 to $612 last year, 5.0% higher, while average factory prices were recorded at $312, an even 3% more than the $299 indicated for 1949. Furnace-burner units in use at year end had increased 46.2% to 809,994. Table 4 lists the annual sales, retail and factory value and number of furnace-burner units operating at the end of each year since 1935. Price trends of factory-assembled forced air units are recorded in Table 8.

There were a total of 1,165,416 furnaces produced in 1950, an increase of 61.8% over 1949's production of 719,952. Of these oil-designed equipment amounted to 372,101, or 31.9% of the total, compared with 219,304 oil-designed furnaces produced in 1949, which represented 30.4% of that year's total. Forced air furnaces for oilburning amounted to 95.1% of the total oilfired furnaces in 1950, 93.1% in 1949.

Reporting on furnace sizes installed by bonnet capacities, dealers said that more than 80% of the oilfired equipment was under 100,000 Btu capacity. Installations delivering less than 50,000 Btu were 2.8% of the total; 50,000 to 74,000 Btu systems required 30.1% of the oilfired furnaces; 75,000 to 90,000 Btu capacities represented 47.3% of the total; 100,000 to 124,000 Btu jobs took 11.8% and 8.0% of oilfired furnaces developed capacities in excess of 125,000 Btu.

The great majority of furnace-burners were purchased as complete units by dealers in 1950. Only 30,810 of the 349,914 furnace-burner units installed last year were dealer-assembled, making use of separate burners and furnaces. This represented only 8.8% of the total.

Table 9 shows furnaces shipped for coal, oil and gas use by type of air distribution for the last two years.

Commercial oilburner Installations

Installations of distillate and residual oilburners for commercial oilheating totalled 33,853 in 1950, a 34.2% increase over 1949's total of 25,220.

In use at the end of the year were 444,778 burners, a 7.3% advance over the 414,310 in operation at the end of 1949.

Of these commercial oilheating installations 46% or 15,572 were for use with distillate oilburners in capacities under 6 gph, while the balance, 56% or 18,281, were residual burners with capacities over 6 gph. Of this latter category oilheating dealers installed 10,393 or 57% of total commercial oilheating installations using Nos. 4, 5 and 6 fueloils. The remainder, 7,888 or 43% of the total, were accounted for by heating engineers and similar organizations that are not primarily oilheating dealers and do not report statistics for this study.

In domestic oilheating figures there are included small stores and flats that use burners under 6 gph, the typical domestic type oilburner.

Competitive Equipment

Sales of domestic and small commercial stokers registered another decline. Sales dropped from 29,994 in 1949 to 19,546 last year, or 34.8% less, making the year's sales the smallest since 1933, with the exception of the war year, 1943. Sales of Class 1 (up to 60 lbs. of coal an hour) and Class 2 (60 to 100 lbs per hour) stokers are shown in Table 11, broken down into anthracite and bituminous types.

Small stokers in use at the end of the year decreased slightly to 1,175,448, compared with 1,235,560 last year. Actually, replacements by gas and oil and stoker sales to replace worn or damaged stokers, were considerably greater than new installations.

Table 12 contains estimates of gasburner equipment as made by Gas Appliance Manufacturers Association.

Gasburners in 1950 totalled 1,081,000 up 69.7% of the 637,000 estimated for 1949. A 26.9% rise was registered for conversion burners, from 290,000 in 1949 to 368,000 last year, while boiler-burner units rose 64% to 82,000 as compared with 50,000 in 1949. The largest increase was registered by gasfired furnace-burner units, which advanced 112.4% from 297,000 in 1949 to a total of 631,000 sold in 1950.

Table 11. Domestic and Commercial Stokers

Total Sales		CLASS 1 Bitum.	CLASS 1 Anth.	CLASS 1 Total	CLASS 2 Bitum.	CLASS 2 Anth.	CLASS 2 Total	In Use End Year
144,758	1940	123,167	12,837	136,004	7,784	970	8,754	637,695
182,956	1941	158,734	17,110	175,844	6,513	599	7,112	802,345
79,062	1942	62,753	11,562	75,315	4,391	356	4,747	877,455
17,765	1943	4,460	472	4,932	10,790	2,043	12,833	894,330
31,603	1944	1,714	450	2,164	27,196	2,243	29,439	925,435
119,279	1945	89,522	3,525	93,047	24,349	1,883	26,232	1,029,150
181,223	1946	164,304	7,044	171,348	8,967	908	9,875	1,160,755
61,596	1947	53,372	3,364	56,736	4,469	391	4,860	1,186,195
76,477	1948	61,355	9,504	70,859	4,857	761	5,618	1,238,225
29,994	1949	21,988	4,991	26,979	2,612	403	3,015	1,235,560
19,546	1950	13,522	3,751	17,273	1,791	482	2,273	1,175,448

Table 12. Domestic Gasburners

Annual Sales: Conversion	Boiler Units	Furnace Units	Total		No. in Use (End of Year)
21,687	10,201	56,666	88,554	1940	1,187,486
36,335	15,007	85,043	136,385	1941	1,310,222
6,087	10,966	29,412	46,465	1942	1,352,040
800	3,485	8,970	13,255	1943	1,363,970
3,180	5,217	12,113	20,510	1944	1,382,430
14,183	14,959	27,676	56,818	1945	1,433,570
400,000	32,500	230,000	662,500	1946	2,027,548
90,000	44,000	188,000	322,000	1947	2,297,000
48,500	30,000	193,000	271,500	1948	2,538,500
290,000	50,000	297,000	637,000	1949*	3,199,600
368,000	82,000	631,000	1,081,000	1950	4,166,600

*Revised

At the end of the year gasburners in operation had increased 30.2% to 4,166,000.

Other Equipment

Oilburner dealers in 1950 also sold 973 oilfired steam generators and 11,870 water heaters, of which 5,650 were fired with vaporizing oilburners and 6,220 used gun or rotary oilburners. Neither of these totals, of course, approach industry totals for such equipment, particularly in the case of water heaters, as most of these units are sold by furniture or appliance stores and similar outlets.

Summary

The attainment of a sales volume in 1950 second only to the record-breaking year of 1947 in the face of uncertainties and spot shortages during the last six months again has demonstrated the ability of the industry to operate well under difficulties. Also, this high sales volume was accomplished in the face of the gas industry's largest year. Promotional programs to combat natural gas competition in affected areas and in those places that expect natural gas indicates that the merchandising-minded oilheating dealer is aware of the job that faces him and is willing to come to grips with his competition.

In prospect, 1951 looks like a year of hard work, with the most success going to those dealers who sell hard and intelligently and satisfy the customer with efficient installations and service.

Wilson centralizes Mobilization Set-up

CENTRALIZATION and coordination were achieved by the revisions in the mobilization set-up made on January 3 by Defense Mobilization Director C. E. Wilson.

They include establishment of two new agencies: Defense Production Administration, headed by W. H. Harrison, former head of NPA, which continues as a Commerce Dept. bureau issuing priority and allocation orders and Defense Mobilization Board, headed by Mr. Wilson and including the Secretaries of Treasury, Defense, Commerce, Interior, Agriculture and Labor, the chairmen of the RFC, NSRB and Federal Reserve's board of governors.

Mr. Wilson, backed by Executive Order 10200, is over-all head of these agencies and has under his policy control the Economic Stabilization Board and all other mobilization agencies.

Most Dealers did well in 1950

Smaller profit Margins balanced by unexpected large Volume

OILHEATING DEALERS as a whole ended the year 1950 with a fairly good profit in spite of the fact that strong price competition developed in the early months of the year. The retail price index of conversion burners dropped from 129.4 at the start of the year to 125.3 at the end of June, then climbed back to 136.3 by the close of November.

They had a little help from the burner manufacturers during those early months, for the wholesale index fell from 128.2 at the start of the year to its low point of 120.9 at the end of March, rising from that level to 134.0 at the end of November.

The comforting factor was the unexpected high volume that let smaller gross profit margins apply to a lot more installations than had been looked for. They expected a 12% rise over 1949, got a third more.

The average selling price for a conversion burner was just the same as in 1949, or $352. It had dropped in the spring, came back in the fall, ending considerably higher than at the same date of the year before. The average installation, however, carried $20 less profit, as shown in the chart and table below.

The average burner cost from the factory was up just a dollar, but installation materials rose $12 and installation labor $7, leaving a gross profit to cover sales expense, overhead and net profit of $99, against $119 last year. The 1950 gross profit, representing only 28% of the selling price, is too low compared with other industries. It has been for a number of years, yet the dealers manage to keep going comfortably. This is partly because most of the larger ones sell fueloil and find their burner departments an effective sales tool for building gallonage.

The average size of the dealers who cooperated in this annual industry analysis is shown in the table. They sold 86 oilheating installations, had 958 service customers and 800 fueloil accounts. They are reasonably representative of the industry.

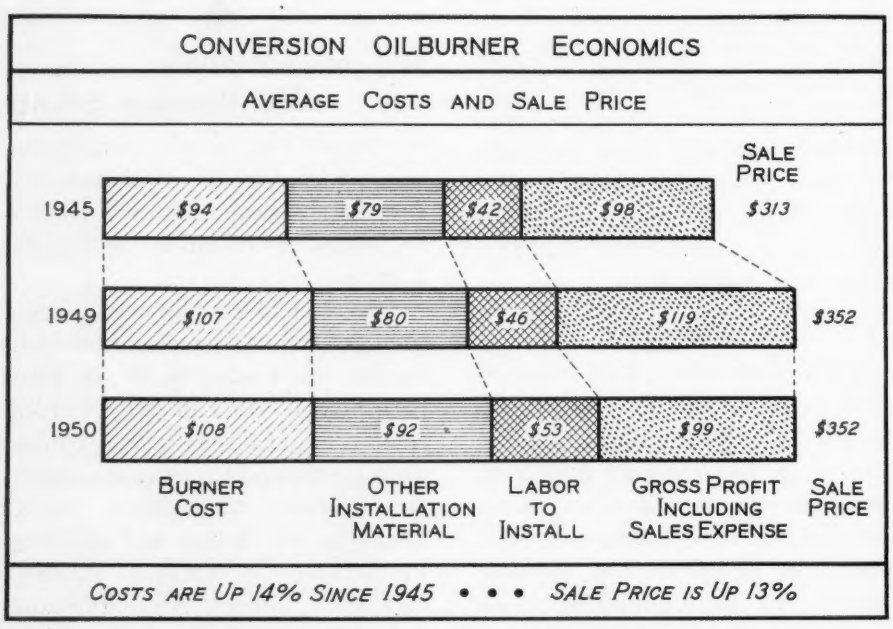
Nearly half of all burner installations were made by dealers who had their largest dollar volume in oilheating equipment. Very few dealers sell that product exclusively, but to learn their major interest they were all asked and classified by their largest dollar volume product. They might be traditionally heating contractors or sheet metal and furnace dealers but if their largest volume is in oilfired equipment, that's where their hearts are.

The chart "Burner sales Leaders" shows this breakdown by types of dealers. Those companies with a major interest in fueloil were second with 37% of installations. Plumbers or heating contractors whose major income was from heating for other fuels ranked third in oilheating sales, with 4.7%.

The influence of oil volume on burner sales, and vice-versa, is shown in another table. Of all reporting companies who sold oilburners 60% also sold oil, and that group accounted for 70% of all oilburners sold in the country. There is a noticeable geographic variation in these percentages, high in the East and dropping toward the West.

In the strictly new home market we find a somewhat different pattern. The chart showing this is based on dealer impressions of their total markets rather than on their own installation records. They were asked to estimate the percentages of total new home installations in their communities that were made by each of the five groups. Their impressions are naturally based on the competitor's background, rather than on what might be his largest dollar volume item at the moment. Thus the sheet metal or heating contractor in many instances would have his primary interest in oilfired equipment and could more accurately be classified with the oilburner group.

Oilheating dealers in 1950 sold 7,005 stokers and 111,356 gas-burners.



Installed Cost of Conversion Burner

	New Eng.	*Mid-Atl.*	*Mid-West*	*The South*	*The West*	*1950 U.S. Total*	*1949 U.S. Total*
Paid for Burner	$111	$108	$115	$107	$106	$108	$107
Installation Materials	95	91	77	94	92	92	80
Labor, including subcontract	49	62	43	52	53	53	46
Gross profit, including sales expense	83	78	136	119	115	99	119
Average sale price	338	339	371	372	366	352	352

Different Size Cities

This year for the second time some of the data are separated to show the effect of size of cities.

Small cities for the purpose of this study have under 25,000 population; medium are 25,000 to 100,000; large are over 100,000.

Average Dealer Sizes

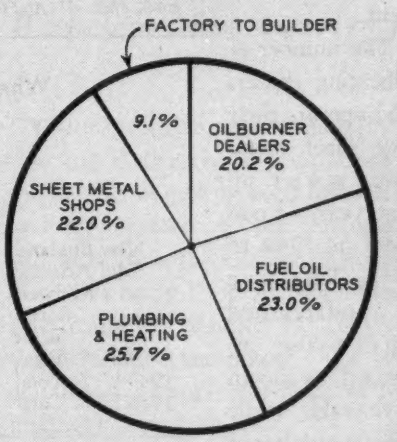
	1950 Burner Sales	No. 2-3 Service Customers	No. 2-3 Fueloil Customers
NEW ENGLAND			
Small cities	22	574	279
Medium	66	594	497
Large	116	823	940
MID-ATLANTIC			
Small cities	58	588	453
Medium	115	829	727
Large	165	2,043	2,449
MIDWEST			
Small cities	37	342	205
Medium	102	715	839
Large	113	1,730	1,059
SOUTH			
Small cities	24	140	284
Medium	65	595	444
Large	88	840	617
WEST			
Small cities	33	230	154
Medium	71	2,015	1,403
Large	154	2,432	2,471
ALL U. S.			
Small cities	42	459	319
Medium	95	889	776
Large	138	1,726	1,750
All cities	86	958	800

Oil Influence on Burner Sales

	Per Cent of Burner Dealers who Sell Oil	Per Cent of Total Burners Sold by Oil Sellers
New England	79	78
Mid-Atlantic	68	94
Midwest	53	61
South	32	39
West	31	10
Total U. S.	60	70

INSTALLATIONS IN NEW HOMES

PERCENT OF TOTAL BY TYPES OF DEALERS

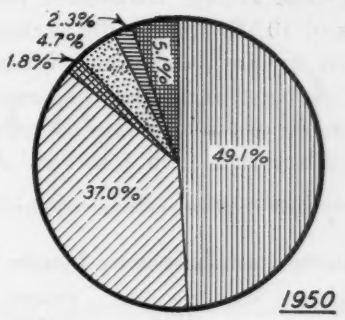


1950

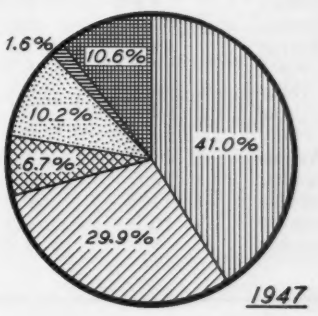
BURNER SALES LEADERS

PERCENT OF TOTAL BURNER SALES MADE BY DEALERS WHOSE PRINCIPAL BUSINESS (LARGEST DOLLAR VOLUME) WAS IN —

OILHEATING EQUIPMENT
FUELOIL
COAL
PLUMBING OR HEATING
BURNER SERVICE
OTHER BUSINESS



1950



1947

As the table shows, the predominance of this selling of competitive fuel equipment was in the Midwest, mostly in the few large cities where gas is very cheap. The dealers' ratio of oilburner to stoker sales was roughly 100 to 1, and the ratio of oil-burner to gas sales roughly 8 to 1. The concept of a balanced automatic heating market is still pretty nebulous.

The source of burners that dealers buy, direct from factory or through a wholesaler, is charted and shown in an accompanying table. There has not been much change in the ratio in recent years, although there is a small rise in direct factory buying. In 1950 approximately 80% of all burners moved direct to the dealer from the factory or from a factory warehouse; 20% were bought through wholesale outlets. The 1949 ratio was 76% from factories, 24% through middlemen. There is very little regional difference in the 1950 ratios, with the far West showing the only wide departure from the pattern, and for understandable reasons The long freight haul calls for carlot shipments.

Dealers spent considerably more for advertising in 1950 than in the previous year. The average amount spent per burner installed was $16.30, compared to $13.31 in 1949 and $11.10 in 1948. In instances where the dealers also sold fueloil some of the advertising money glorified that product as well as burners, but it is clear that the general level of promotional activity was well up. The average per dealer of $956 in newspapers was up from $840 in 1949; telephone directory advertising per dealer rose from $208 to $302; direct mail declined from $279 to $265; radio dropped from an average of $731 to $700.

The chart showing the ratio of installment sales to cash transactions has shown a very consistent pattern since the war. In 1950 just over half (50.2%) of all sales reported were made for cash. The growth of installment sales clearly shows that oilheating is reaching into families with lower incomes, people with steady pay checks but no large cash balances. This is a healthy development. Whether the trend continues through next year will depend upon whether the rising level of incomes can offset the credit restrictions of Regulation W.

Dealers Selling Competitive Equipment

	Per Cent Who Sold Stokers	Number of Stokers Sold By Oilheating Dealers	Per Cent Who Sold Gas Burners	Number of Gas Burners Sold By Oilheating Dealers
New England	8	314	3	865
Mid-Atlantic	11	1,523	25	27,703
Midwest	29	3,368	40	76,289
South	33	212	34	531
West	31	1,588	19	5,968
All U. S.	18	7,005	24	111,356

In each of the recent years fewer oilburner salesmen are being paid straight commissions or straight salaries; more each year are getting a combination of salary and commissions. Notice in the table "Oilburner Salesmen by Types" that each of the trends is uninterrupted through the last three years. The average commission rate shown of 10.3% applies only to those men on straight commission. Where it's a combination of salary and commission the percentage rate over the small salary runs from 5 to 8%. A few dealers pay their salesmen a straight commission without a fixed rate; they base it on a share of the gross profit over the primary labor and material costs. That practically makes the salesman a partner, without capital investment.

The number of oilheating dealers who operate their own sheet metal shops went up this year from 24% in 1949 to 27%. The use of prefabricated ducts also increased, as shown in the table, while a lesser number of dealers farmed out their sheet metal work. The Midwest and the Far West naturally are highest in shop ownership. Quite a few with their own shops also use prefabricated ducts for a good share of their output.

Forced warm air made gains in oil-fired installations in 1950, at the expense of hot water and gravity air systems. The figures shown in the table do not apply solely to complete heating installations; they also measure the types of existing systems that got conversion oilburners.

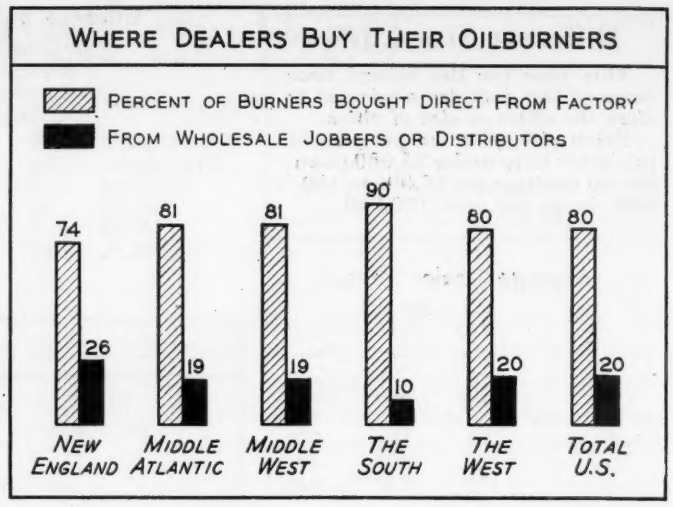
A new kind of measurement this year is the rate of capital turnover. There has been a growing interest in capital management subjects with considerable discussion of the amount of business that can safely be handled on a fixed investment in the business. The turnover rate shown in the table of "7.1 times" means that the average dealer with, say $50,000 capital, has total sales billing of a little over $350,000. The turnover rate is not nearly as high as many strictly retail types of businesses, but it is much higher than the normal manufacturing enterprise. Any business with a 7 time

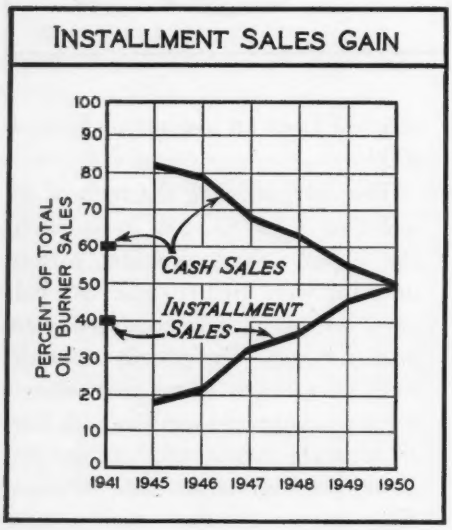
Oilburner Installations by Months

	1950	Prewar Average
January	4.0%	4.3%
February	3.1	3.6
March	3.6	5.3
April	5.9	6.5
May	8.1	6.7
June	8.4	7.1
July	10.1	8.7
August	13.5	11.5
September	12.6	17.2
October	11.9	16.2
November	10.3	8.0
December	8.5	4.9

Where Dealers Buy Their Burners

	PER CENT OF DEALERS		PER CENT OF ALL BURNERS	
	From Factory	From Wholesaler	From Factory	From Wholesaler
New England	67%	33%	74%	26%
Mid-Atlantic	67	33	81	19
Midwest	66	34	81	19
South	66	33	90	10
West	58	42	80	20
1950 U. S. Total	66	34	80	20
1949 U. S. Total	64	36	76	24
1948 U. S. Total	59	41	78	22





Capital Turnover

(Gross Sales divided by invested Capital)

COMPANIES WHOSE LARGEST DOLLAR VOLUME IS IN:

Oilheating Equipment	7.1 times
Fueloil	7.3
Other Heating, Plumbing	6.0

Dealer Advertising Expenditures

	Per Cent of Dealers Using	Spent Per Burner Installed	Spent Per Service Customer	Average Spent Per Dealer Using
Newspapers	76	9.53	.78	$956
Direct Mail	40	1.40	.11	265
Telephone Directory	67	2.67	.22	302
Radio	29	2.70	.22	700
1950 Total		16.30	1.33	
1949 Total		13.31	1.30	
1948 Total		11.10	1.23	

Oilburner Salesmen By Types

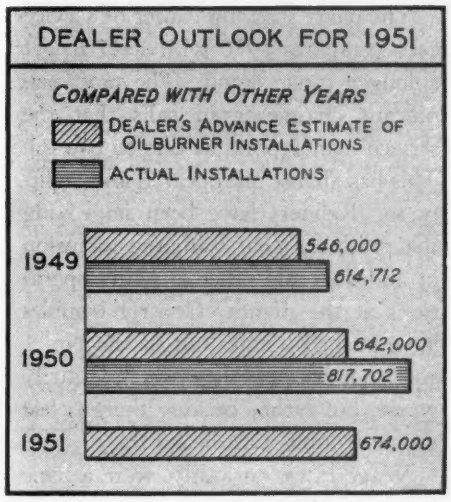
	1950 U. S. Total	1949 U. S. Total	1948 U. S. Total
Per cent of men selling on commission	34	36	39
On salary	22	25	26
On salary and commission	44	39	35
Average commission rate	10.3	9.9	11.1
Average burner sales per man	66	60	59

Many Oilheating Dealers Have Sheet Metal Shops

	Own Shop	Use Prefabricated	Farm Out
New England	10%	34%	56%
Mid-Atlantic	19	34	47
Midwest	44	28	28
South	32	5	63
West	47	40	13
1950 U. S. Aver.	27	32	41
1949 U. S. Aver.	24	26	50

capital turnover has good profit opportunities. A 5% net profit on sales naturally means a 35% net on the investment. A few dealers had turnovers as low as 2 or 3 times, some as high as 20, particularly fueloil marketers.

Looking into 1951 the dealers expect burner installations to be about 17½% below 1950. Their former projections of this kind have always been on the low side. The chart shows this for two previous years. New England on the whole is the most pessimistic, with a more favorable forecast as you move west. This attitude has been observed in earlier years; New England, with few exceptions among dealers, is conservative. Combining the several sections of the country it is clear, at least, that few dealers have any thought of quitting the business now that we're in a defense production era.

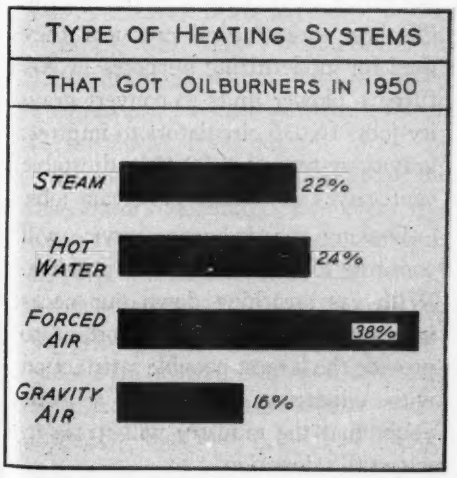


Dealer Outlook for 1951

	Burner Sales Below 1950
New England	23%
Mid-Atlantic	18
The South	15
Midwest	11
The West	15
All U. S.	17.5%

Type of Heating Systems That Got Oilheating

	Steam	*Hot Water*	*Forced Air*	*Gravity Air*
New England	37%	31%	19%	13%
Mid-Atlantic	31	32	26	11
Midwest	10	17	45	28
South	6	10	76	8
West	2	6	76	16
1950 Avg.	22	24	38	16
1949 Avg.	22	33	25	20
1948 Avg.	16	33	34	17
1947 Avg.	26	30	21	23



1950 Service crowded

With less Manpower to do a bigger Job, some neglected

THROUGHOUT THE YEAR oilheating dealers have complained of the trouble in getting good installation and service men. Often the remark was heard that the number of installations was being limited to the number that could be handled by the individual dealer's manpower. The year-end measurements of service activity highlight this situation.

Notice the table "Service Measurement by Areas." The average service billing per customer was down from each of the last two years, even though the average charge per call was up. The average number of calls per customer was down, only slightly it's true, but many of those calls if made would have been summer clean-ups.

Then when we look at the number of service customers to each service man, there's a rise. It all ties in to the fact that people were willing to buy a lot more oilburners in 1950 than the dealers had expected at the start of the year. New installations mean profit possibilities; burner service rarely does. It was not that most of the dealers deliberately reduced their service. When they got behind schedule on installations they kept a lot of service men busy setting boilers and furnaces instead of cleaning flues.

Installations will no doubt be fewer in 1951, but so will good men. The tight manpower situation will get worse before it improves.

The most significant yardstick on the lesser amount of burner service rendered in 1950 is shown in the table on annual service contracts. The total number of customers who got an annual clean-up job, whether they were on annual contracts or just ordered a vacuum job was down a fourth from 1949. As orders for new installations mounted, this activity was not pushed, for the men were more profitably employed otherwise. The total number of annual contracts was down in a similar ratio.

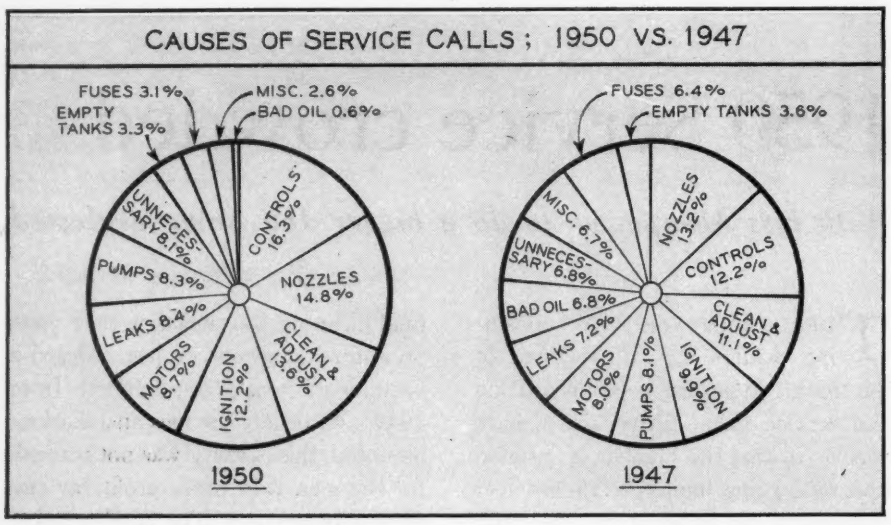
The average price for annual contracts, not including parts, was up from 1949, showing $16.00 against $14.52. The average contract price including parts also went up, from $19.02 to $19.60. It is interesting to notice that the number of contracts including parts did not go down in 1950, while the non-parts contracts fell sharply in number. The average difference of $3.60 to cover the cost of replacement parts is pretty well in line with their cost to the dealer, but it is considerably below what he formerly sold them for when they were not included.

The minimum charge per call on non-contract customers was $3.38, with the East continuing to get more for this service than the West, except in large cities, where the West shows higher rates.

At the year end, more oilheating customers were on farms than a year ago, 8% of all users compared to 7%. It has been recognized that quite a lot of the growth of oilheating since the war has been in the smaller cities and towns, as contrasted to large cities that almost monopolized it during rationing days. However, this movement has not reached the actual farming families in large numbers. A few

Service Measurements by Areas

	New Eng.	Mid-Atl.	Mid-West	The South	The West	1950 U.S.	1949 U.S.	1948 U.S.
Average Service Income per Customer	$15.28	$16.40	$9.15	..	$8.34	$13.38	$13.69	$16.60
Average Calls per Customer	1.5	2.2	1.8	1.3	1.0	1.8	1.9	..
Customers per Service Man	328	450	372	237	339	384	380	302
Per Cent of Dealers With Union Shops	3	7	19	neg.	45	14	18	..



Annual Service Contracts; Annual Clean-up Jobs

	New Eng.	Mid-Atl.	Mid-West	Pac. N.W.	U.S. 1950	U.S. 1949	U.S. 1948
Contracts without Parts							
% of all customers using	3	7	4	5	7	9	8
Average Price	14.30	17.19	13.57	19.15	16.00	14.52	16.93
Contracts including Parts							
% of all customers using	3	11	neg.	neg.	5	5	4
Average Price	16.29	21.06	..	..	19.60	19.02	20.66
All Contracts, percent of customers	6	18	4	5	12	14	12
Annual Clean-up Jobs, not including Contract customers:							
Percent of all customers	34	22	11	7	20	29	25
Average Minimum Price	6.41	8.45	8.01	10.34	8.19	7.68	7.61
Total Annual Clean-ups, including annual contracts, Percent of all customers	40	40	15	12	32	43	37

Minimum Charge per Call

	Small Cities	Medium Cities	Large Cities
New England	$3.31	$3.27	$3.56
Mid-Atlantic	3.61	3.15	3.83
Midwest	2.78	2.84	4.06
The West	2.54	..	4.25
All Sec.	3.21	3.09	3.89

	1950	1949	1948
Overall Average	$3.38	$3.13	$3.15

Burner Service For Farms

	Per Cent of Customers on Farms	Distance From Town Without Extras	Charge Per Mile Beyond
New England	3%	8 miles	10¢
Mid-Atlantic	8	10	11
Midwest	11	9	11
The South	2	8	12
The West	12	8	10
U. S. Av.	8	9	11

Service Wage Rates Per Hour and Weekly Averages

	SMALL CITIES Skilled	Helpers	Av. Week	MEDIUM CITIES Skilled	Helpers	Av. Week	LARGE CITIES Skilled	Helpers	Av. Week
New England	$1.57	$1.15	$62	$1.79	$1.21	$61	$1.76	$1.12	$67
Mid-Atlantic	1.86	1.13	76	1.79	1.33	74	1.88	1.26	75
Midwest	1.56	1.31	68	1.84	1.40	80	1.92	1.47	88
The West	1.70	1.19	78	..	..	..	2.39	1.89	92
All Sec.	1.71	1.19	72	1.80	1.32	73	1.81	1.37	79

	1950 Skilled	1950 Helpers	1949 Skilled	1949 Helpers	1948 Skilled	1948 Helpers
Overall Average	$1.77	$1.28	$1.79	$1.36	$1.72	$1.40

dealers specialize in pushing farm sales, but too few. They have to be pushed; very little is over-the-counter business. With rural electrification growing every year, farms still offer a broad virgin market. The average dealer will send a service man eight miles from base without extra charge, then collect 11¢ per additional mile.

The chart showing causes of service calls compares 1950 with 1947 to get a longer range trend. The most significant change is in calls that the service man reports as due to bad oil. This has almost disappeared and rightly so. Refiners have been improving the product, what with the inclusion of additives and other finishing operations at the plants. Control troubles have pushed nozzles out of the No. 1 spot, not because they are necessarily worse, but rather because there is less nozzle trouble with better oil.

Wage rates, curiously, were a little lower in 1950 than the year before. The most obvious reason would be in the addition of extra men that were not as highly skilled or experienced as those formerly on the staff.

Notice again this year that as you move westward the rates average higher, noticeably so in the large cities. The Pacific Northwest has the nation's highest rates in the big centers, primarily because skilled mechanics can get such high wages in the defense plants, and their number is limited.

Service men install quite a lot of extra equipment to improve old heating systems. As a measure of this, the dealers were asked about three typical products. The quantities they stated were not used on new heating plants, but rather to modernize an old system. Of these three typical products, they used for modernizing purposes 11,962 furnace blower units to convert gravity jobs, 16,636 circulators to improve gravity systems and 99,414 adjustable vent valves to balance old steam jobs.

Looking ahead, burner service will continue to be a manpower problem. With gas breathing down our necks in several markets it is important to provide the largest possible satisfaction with oilheating, and there is little doubt that the industry will strain itself in this direction.

Fueloil Distributors did better

Mild Eastern Winter held Gallonage down but Profits were higher

IF THE FUELOIL distributors could ever again get a good cold winter coupled to a rising fueloil market they ought to make some real money. This winter might be it, although the President's "voluntary" price freeze may prevent the industry's making the most of a good demand. The long-range forecasts are saying it will be cold.

It is often said that the real profits in most any business are found in the last 10 per cent of the gross sales. The last two winters, extra mild East of the Rockies, have deprived the fueloil distributor of a lot of volume. In the 1947-48 season the average No. 2 oil account used 2,137 gallons; this average is based on a combination of residential and small commercial customers that use the same general styles of burners and oil.

By comparison, in the 1948-49 season the average gallonage per consumer of No. 2 oil was 1,831 gallons; in the 1949-50 season it was 1,883. In the former of the two seasons, fueloil prices were falling through the peak months; this last season they were gradually rising. So while each season was bobtailed for volume, both margins and profits were a little better this year.

It must have been gratifying to fueloil marketers throughout the country to watch the very high level of new oil-burner installations, in spite of the fact that the gas industry was in one of its periodic surges. Most industry men had felt that the record year of 1947 with its 888,000 burner installations was unnatural, being a catch-up year after the war. Our 818 thousand in 1950 almost equalled it, with no catch-up pressure, but instead with a lot of back-pressure from gas.

In the annual study this year fueloil distributors cooperated from every section of the country. More of them were Eastern, but so is more of total fueloil volume Eastern, so the relative balance was about representative. Not all questions were answered by all companies; some didn't apply in particular operations. For that reason, each of the figures in the tables is to stand on its own. It represents the weighted average of all companies reporting that particular activity.

Also it is well to remember that in a sampling study of this kind, the group with the largest returns is the most nearly accurate. For example, national averages are better than the sectional on the less popular activities, because there are so many more returns. Things that everyone does, like selling distillate, and hiring drivers and running trucks . . . those figures are representative of the industry in each region.

The chart "Operating Costs vs. Margins" shows the small rise in average margins during the year and a corresponding improvement in profits before income taxes. The man without a bulk plant did better in 1950 than the plant operator. The average margin difference was only .13¢, while it cost .27¢ to run a plant. This figure was influenced a lot by the New England situation. (See table under chart, page 64.) New England operators without bulk plants had a larger average margin than those with plants. This is because most of the largest fueloil distributors are in the tidewater cities where they do not own bulk plants but their volume is so large that they get more favorable spreads.

In some former years the cost and margin chart was divided to size of companies rather than to size of markets. The effect is much the same. The distributor in the medium sized city showed the best profits in both types of operation. On the gallonage basis we used to find that the man with around three million gallons profited most. Notice that the large city operators had much higher overhead ratios per gallon, just as we used to find in the over-three-million gallon operator. It's primarily the greater volume that brings the high overhead, rather than simply the population. When a fueloil distributor passes a certain size (we believe it's about three million) he begins hiring management, instead of running everything himself.

Drivers' wages are a big factor in operating costs. The table shows little change from last year, except for the top men in the large cities; they are up on the average 15¢. The slightly lower than last year averages in some of the brackets does not signify that the men's pay rate was cut; rather it indicates that when some of the best men left for other industries they had to be replaced with less experienced help. The figures under "Best man" and "Lowest" do not refer to a single individual. Each marketer gave us his top and bottom driver rates; the "Best man" then is the average of all of the top rates in that particular section of the country.

Only 16% of the reporting fueloil distributors this year had union drivers, compared to 19% reporting last year. The union influence by areas in 1950 as reflected by union shop companies was: New England 3%, Mid-Atlantic 12%, Midwest 23%, Far West 39%.

Noticing during the year some significant differences between union contracts in various cities, a question was asked of the group about where overtime starts. In 65% of the union contracts it starts after the individual 8-hour day; the other 35% start overtime after a 40-hour week. Among the non-union companies we find that only 43% start their overtime after an 8-hour day; 57% use rather the 40-hour week.

Truck Drivers' Wage Rates Per Hour and Weekly Averages

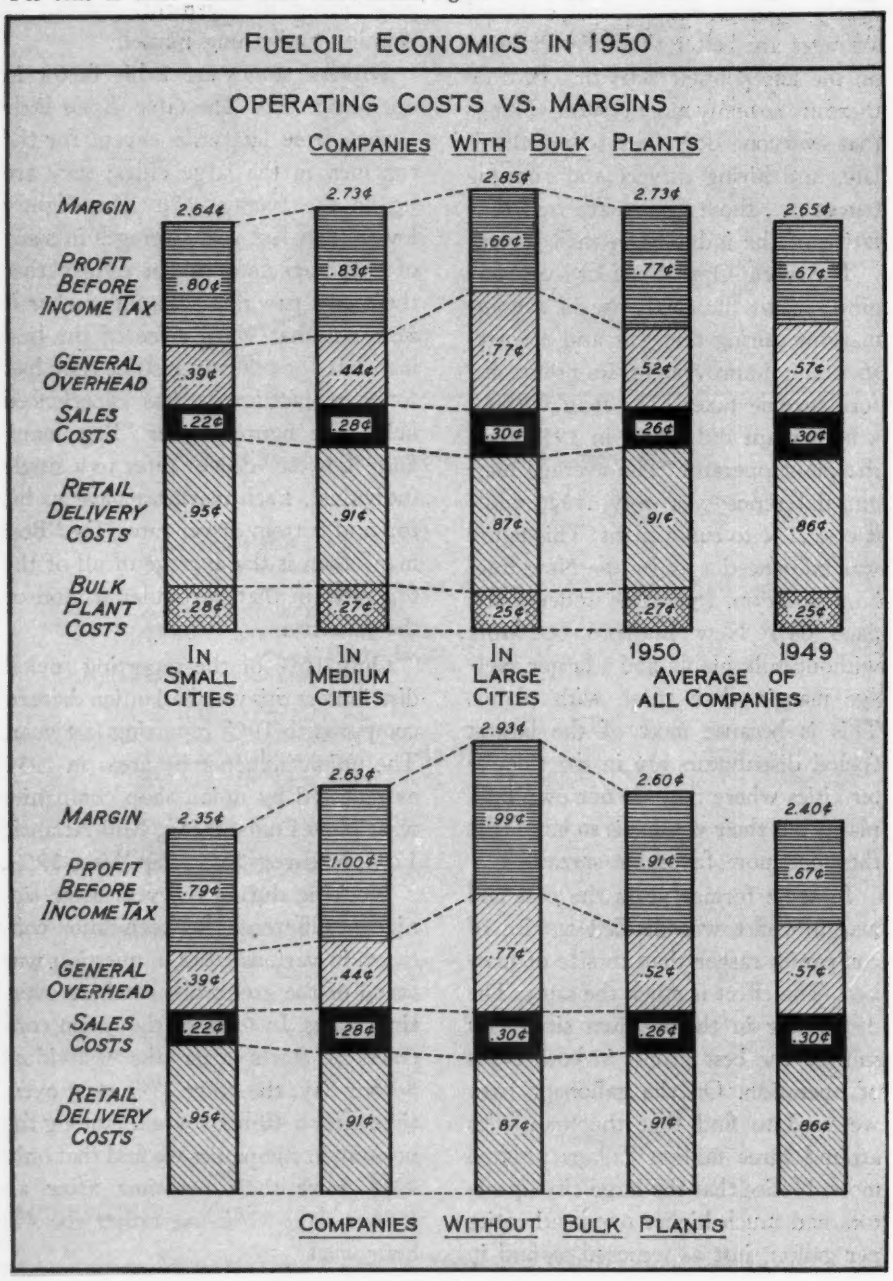
	— SMALL CITIES —			—MEDIUM CITIES—			— LARGE CITIES —		
	Best Men	*Lowest*	*Avg. Week*	*Best Men*	*Lowest*	*Avg. Week*	*Best Men*	*Lowest*	*Avg. Week*
New England	$1.06	$ .87	$49	$1.45	$1.21	$61	$1.41	$1.06	$65
Mid-Atlantic	1.29	1.07	60	1.35	1.01	64	1.71	1.40	67
Midwest	1.35	1.19	69	1.38	1.28	73	1.41	1.07	66
The South	1.02	1.00	41	1.27	.92	50	..	..	..
The West	1.43	1.37	65	1.65	1.33	81	1.70	1.54	82
1950 All Sec.	1.26	1.09	60	1.41	1.14	67	1.58	1.27	68
1949 All Sec.	1.28	1.12	57	1.39	1.19	64	1.43	1.31	64

Extra Tanks for Old Customers in 1950

	NUMBER OF TANKS INSTALLED					
	275 gal.	550 gal.	675 gal.	1000 gal.	1500 & up	Total
New England	1,376	78	40	156	472	2,122
Mid-Atlantic	5,426	2,166	71	1,547	71	9,281
Midwest	5,167	65	..	98	719	6,049
The South	1,859	505	..	212	..	2,576
The West	4,351	1,176	176	89	..	5,792
U. S. Total	18,179	3,990	287	2,102	1,262	25,820

Automatic Deliveries; Fill Signals

	1947	1948	1949	1950
Per cent of dealers using automatic deliveries	65	66	79	72
Per cent of customers thus served	64	63	70	73
Per cent of users' tanks with VENTALARM signal	33	38	48	46



Margins and Operating Costs, No. 2 Oil

	New Eng.	Mid-Atl.	Mid-West	The South	The West	U. S. Total
Bulk Plant Costs	.27¢	.25¢	.24¢	.28¢	.27¢	.27¢
Retail Delivery Costs	1.10	1.01	.83	.62	1.13	.91
Selling Costs	.36	.33	.21	.25	.26	.26
Overhead	.68	.46	.44	.46	.54	.52
Margin with Bulk Plant	2.96	2.78	2.35	2.67	2.89	2.73
Without Bulk Plant	3.05	2.60	1.81	2.20	2.47	2.60
Profit with Bulk Plant	.55	.73	.63	1.06	.69	.77
Without Bulk Plant	.91	.80	.33	.87	.54	.91

The practice of installing extra customer tanks to raise their storage capacity took another setback in 1950. Only about 25,820 such extra tanks were installed. This compares with 40,897 in 1949 and with 120,355 in 1948 . . . that was the year after the tight winter and some customers were still worried. One reason for the small number in 1950 is that through much of the year tanks were scarce, daily getting higher priced, and it made sense to save them for new burner installations.

Most of the extra tanks that went in were in markets that allow a price differential to customers with larger storage. Surprisingly this practice has made a lot of headway during the year. Of all the fueloil distributors reporting in this study, 45% now offer a saving to the customer with larger storage. The breakover point is usually either 300 gallons or 400; in any event it calls for something bigger than a single 275.

Most of the companies (69%) offer a saving of .5¢. The next largest group (17%) allows either .25 or .30¢ saving; the remainder (14%) cut the price a full cent or more when serving the larger tank. This latter figure is particularly noticeable in returns from Seattle, where the saving throughout the market is 1.1¢.

Automatic Deliveries Held Their Own

The table shows that automatic deliveries and fill signals are about holding their own compared with last year. Fewer companies are using automatic deliveries, but more customers are being served by them. Of course, some additional families get their oil without having to watch the tank. The term "automatic deliveries" used in this study was actually based on degree-day systems and the question was asked that way. Some route systems use good keep-filled methods, without degree-day calculations. It's safe to say that around 85% of all customers get their heating oil without having to watch the tank and order it.

Fueloil customers lost to other fuels are identified in another table. This was mentioned in an earlier article of this study, but the sections of the country were not shown. The total of all such losses, 68,256, is an impressive figure but it's only 1.3% of the total number

of oilburners in operation. And then new oilheating installations took well over 400 thousand customers away from other fuels.

There was about a five per cent increase in the bulk storage capacity of fueloil distributors during the year. There had been an eight per cent rise in 1949. It should be noted that the storage capacity figures shown in the table do not include secondary plants of major companies, nor do they include the large tidewater terminals of companies like Maritime, Coastal, Hartol. They do not include the capacity of strictly wholesale terminals like Island, Patchogue, and such like, where nothing is sold to consumers. The storage capacity figures in the table cover approximately all of the independent fueloil distributors of the conventional type, doing a retail business.

Thinking of the manpower problems that all industries face in the defense production period ahead, the question was raised as to the turnover in fueloil truck drivers. Many distributors have found it impractical to hold them all through the sumer; they sometimes have no luck in getting the good ones back in the fall. The reporting group this year was asked several questions on this subject.

About 61% of the fueloil distributors keep all of their drivers the year round, finding various things to occupy them in the summer. Those drivers that hold their jobs around the year represent 69% of all fueloil truck drivers. That leaves 31% who are laid off in summer. Only half of those come back in the fall, or 16%. The final 15% goes to greener pastures and must be replaced each fall.

Stating the same facts in men, we have in the industry approximately 26,623- truck drivers for fueloil. Of these, 18,289 are held all year. Another 4,306 after being laid off come back in the fall. We lose approximately 4,028 who don't come back and must be replaced. The over-all totals increase each year as the industry grows. The replacement problem will become progressively more critical.

Another consideration checked this year was the effectiveness of customer budget plans. They are now offered by 32% of fueloil distributors; a year ago only 21% had budget plans. Among those companies using the plan, 10% of their customers are on it, compared with 8% a year ago.

There are several variations in budget planning. The largest group of companies, 49%, divide the year's bill into 10 monthly payments; 32% of the companies have a 12-month arrangement; another 15% prefers nine monthly payments and the remainnig four per cent of dealers use seven or eight-month plans.

They start at different times of the year. The largest group, 36% of companies, start them in June; 16% start in August; 11% start in May; 7% start in July, 5% in September and 2% in October. The remaining 23% of budget-using dealers allow a start at any time, but in general they stick to the basic idea that one year's fuel shall not be carried over to the next season for payment. If they start late, the monthly payments are few.

The large table "Characteristics of 1950 Fueloil Distribution" is similar in most ways to other years. The average distillate sales per dealer of 1,636,000 gallons compares with 1,771,000 last year, showing that the reporting group included more small companies this year. A separation was made this year for the first time between No. 4

Characteristics of 1950 Fueloil Distribution

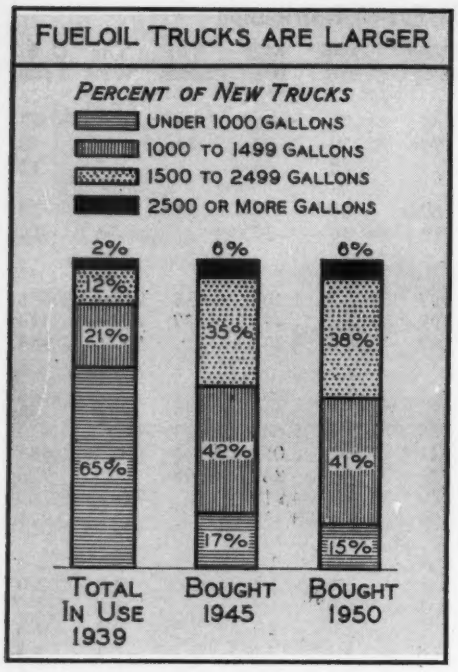
	New Eng.	Mid. Atl.	Mid-West	The South	The West	U. S. Total
PER CENT OF DEALERS WITH BULK PLANTS:						
with distillate storage	61	76	88	86	78	77
with No. 1, Kero. storage	55	50	77	85	44	58
with residual storage	3	8	23	..	16	12
PER CENT OF DEALERS SELLING NO. 1, KERO.	67	65	77	95	67	70
Per cent selling Residual	18	26	27	..	50	28
AVERAGE SALES PER DEALER (Thous. Gal.)						
Distillate	1,087	2,219	1,201	428	1,902	1,636
No. 1, Kerosene	299	292	453	357	1,207	444
Residual	187	1,558	4,237	..	1,656	1,963
AVG. GAL. PER CUSTOMER, 1949-50 season:						
Distillate, residential	1,674	1,717	1,416	948	1,278	1,541
Distillate, commercial-apartment	5,763	5,977	5,684	3,224	4,037	5,473
Distillate, all users	1,931	1,991	2,052	1,143	1,485	1,883
No. 1, Kerosene	752	764	884	608	730	776
No. 4 or 5 Residual	17,020	37,304	44,919	..	17,618	32,760
No. 6 Residual	24,850	101,428	88,330	..	..	80,943
TRUCKS OPERATED PER DEALER, Distillate	2.4	3.5	2.7	1.2	3.2	2.9
No. 1, Kerosene	1.5	1.5	2.1	2.0	3.9	2.0
Residual	1.5	1.0	1.3	..	2.0	1.3
Over-the-road transports	2.2	1.0	2.1	2.0	1.3	1.6
All types	3.8	4.2	4.6	3.1	6.1	4.4
Per cent of dealers operating transports	9	12	35	28	17	18
AVERAGE GALLONS PER DROP, Distillate	178	215	212	213	214	207
No. 1, Kerosene	56	70	112	88	69	78
No. 4 or 5—Residual	2,360	2,362	2,528	4,110	1,274	2,374
No. 6 Residual	4,050	4,450	3,410	..	3,315	3,974
AVERAGE NUMBER OF CUSTOMERS PER DEALER						
Distillate Residential	529	1,042	499	343	1,185	800
Distillate, Commercial-Apartment	35	72	87	32	96	69
No. 1, Kerosene	398	382	513	587	1,654	580
Residual	11	28	55	..	94	40
Distillate customers per truck	366	318	217	313	400	313
Annual average miles per truck	11,313	10,634	11,742	9,010	12,987	11,196
Average annual gallons per truck (thous.)	707	633	445	358	594	582
Distillate gallons per truck mile	62	60	38	40	46	52

Dealers Bulk Storage Capacity No. 2 Oil

	Barrels
New England	3,241,001
Mid-Atlantic	12,889,836
Midwest	7,174,290
The South	1,416,328
The West	630,621
Total	25,352,076

Fueloil Customers Lost

	To Gas	*To Electricity*	*To Stokers*	*To Hand-Fired*
New Eng.	3,535	378	47	237
Mid-Atl.	4,076	..	120	192
The South	654	1,244	622	2,364
Midwest	42,256	..	..	1,463
The West	10,358	618	46	46
	60,879	2,240	835	4,302



New Equipment Bought 1950

	Number
Fueloil trucks under 1,000 gals.	833
1,000 to 1,499 gals.	2,222
1,500 to 2,499 gals.	2,037
2,500 gals. and over	324
Semi-trailers	880
Total all sizes	6,296
Truck equipment, including that used on new trucks —meters	9,074
Pumps	8,889
Hose reels	8,055
Fueloil hose, feet	1,644,246
Bulk plant pumps	1,713
Bulk plant meters	1,204
VENTALARM fill signals	447,397

or 5 residual and No. 6 residual on some of the measurements.

The total trucks operated per average dealer, or 4.4, is lower than the 5.3 of last year, again reflecting the smaller average size of operation. There are indications that these trucks are being used very effectively in the average annual mileage of 11,196, the average annual gallons of No. 2 delivered per truck of 582,000. The gallons delivered per mile of truck operation, country-wide 52, is up from 48 last year.

That is a good simple yardstick to use. Some of the best Eastern operators have felt that a better single measurement of efficiency is the driver's wage cost per hundred gallons. They are reporting this as low as 35¢ under large city conditions.

The number of fueloil distributors operating their own over-the-road transports, or 18%, compares with 19% last year. Some have been added, some dropped in favor of commercial haulers. It is significant, however, that the fueloil marketers bought in 1950 approximately 880 semi-trailer jobs to either use over-the-road or for local deliveries. The table shows some of the other principal equipment items they bought, particularly larger trucks.

Noticing throughout the country this past year an increasing tendency for some companies to sell at prices above the majors' postings, a check was made of the reporting group. Posted prices are closely adhered to by 88% of the marketers; 5% sell at prices below the majors; 7% of the companies sell at premium prices above the majors. The price discounts are usually .2 or .3¢ but one company reported selling .65¢ under posted. The premium marketers mostly sell up .4 or .5¢, but the highest reported was .9¢ above the majors. It may be hard to expand this premium practice, now that we have a "voluntary" price freeze, but it did look like a better plan in many instances than fighting a losing game for better margins.

Looking into 1951, the fueloil distributor is sure to have some rise in gallonage volume brought on by the 1950 crop of new burners. The total number of oilheating users will continue to grow, although at a somewhat slower rate of gain than in the year just closed. With few exceptions, the present margins are about what a company is going to have to count on in the new year. There is a great divergence in operating costs between individual companies, but taking them all as a group for an average, there will be good profits in 1951.

Records topple as Petroleum Products reach new Peak

THE YEAR END REVIEW, released by the American Petroleum Institute, New York 20, N. Y., points out that records toppled in 1950 as domestic demand for petroleum products hit an all-time peak for the eighth consecutive year and total demand, including exports, resumed its upward swing to set a new high. Domestic records were surpassed in well completions, refinery capacity, runs to stills and production of motor fuel, natural gas liquids and natural gas.

Domestic crude in 1950 amounted to an estimated 1,973 million barrels, an increase of 133 million over 1949, but about 47 million short of the 1948 all-time high. With production of natural gas liquids increasing to about 180 million barrels, total production of liquid petroleum in the United States reached 2,153 million barrels.

For the third year in a row domestic demand exceeded 2 billion barrels and is estimated at 2,356 million barrels, an average of 6,455,000 barrels daily. This is an increase of 110%, or 663,000 barrels daily, over 1949. Total demand for the year is estimated at 2,461 million barrels, an average of 6,743,000 barrels a day and far ahead of the high of 2,248 million barrels or 6,143,000 barrels a day established in 1948. Total demand in 1950 exceeded 1949 by about 10%.

Demand for gas oil and distillates experienced an increase of 19 per cent in 1950 over 1949. This increase was greater than that of any other petroleum product during the year.

Gas Oil and Fuel Oil Produced in U. S. Refineries

(Barrels)

Year	*Gas Oil and Distillates*	*Residual Fuel Oil*	*Total Fuel Oil*
1939	161,746,000	305,944,000	467,690,000
1940	183,304,000	316,221,000	499,525,000
1941	189,177,000	342,367,000	531,544,000
1942	196,714,000	358,901,000	555,615,000
1943	211,516,000	417,306,000	628,822,000
1944	239,152,000	461,455,000	700,607,000
1945	249,224,000	469,492,000	718,716,000
1946	287,896,000	431,364,000	719,260,000
1947	312,173,000	447,795,000	759,968,000
1948	380,700,000	479,988,000	860,688,000
1949	339,530,000	424,829,000	764,359,000
1950*	388,086,000	414,082,000	802,168,000

* Estimated.

Authority: Bureau of Mines.

15 Uses for your air-flow Meter

Fpm Readings help a Dealer do best at furnace-duct Heating

by
J. W. Schulz

"YES, MY AIR-FLOW instrument arrived," said an equipment dealer to the furnace expert who was calling on him. "It works. The first week, I held it in front of supply registers on different jobs and got readings of 200 to 600 fpm. Haven't had it out since."

"Aren't you glad you followed my recommendation and ordered the instrument?" asked the factory man.

"Maybe it's a good thing to have around in case you need it," admitted the dealer.

"Listen, Mr. Jones," the factory man said with emphasis, "You're telling me this air meter leaves you cold. In the first place, many months ago in starting to sell our winter air-conditioning units you had altogether too many complaints from your customers and I had to help you straighten them out. I told you then you should do better work both in planning the jobs and balancing them. In the second place, you saw that I had to use my air-flow instrument to find out what was wrong with the trouble jobs. You watched popeyed while I used the instrument, then said you'd certainly get one like it so that you would not have to call me in all the time. Now why is your instrument collecting dust?"

"Well, you used your instrument many ways that I don't know about," Jones pointed out. "It might help if now you would give me a refresher course. That is, go over again a few uses of the instrument. Tell me again the things you said months ago that made me itch to own an air-flow meter."

"In an hour I'll tell you more than a few uses of the air-flow indicator," the factory man responded enthusiastically. "I'll list for you more than one dozen uses for it."

Then he covered items like the following for the dealer.

1. Use the air-flow meter to balance a new forced-circulation system.

Although engineered for an air speed of 400 fpm at every supply register, for example, a new system does not provide this until it has been balanced properly. With all the duct dampers wide open, it may provide 200 fpm at one register and 650 fpm at another. To have the system work properly, it simply must be balanced. Each duct damper must be set in its proper position. What's the proper position for each one? You use your air-flow instrument to answer that question. Have an assistant, working in the basement, give you 400 fpm at the supply register where you're reading the fpm with the meter. Do this for every supply register, and in 30-minutes you can set up the system to operate on the basis of its design.

Until extensive testing has given you ideas different from these, use the following standards when you balance new systems and old systems never before balanced with the help of an instrument.

Aim for 300 to 400 fpm from floor supply registers.

Try for 400 fpm from baseboard and low side wall registers located within four feet of where the occupants usually sit.

Use between 400 and 550 fpm velocity for baseboard and low side wall registers located where these higher velocities will not play currents of warm air on the occupants. That is, use these higher velocities if you deem them necessary for proper heating of the rooms.

Up to 600 fpm works out well for high side wall supply registers that must jet streams of warm air over the heads of occupants to warm the opposite ends of the rooms. That's the rule for small homes. For exceptional cases and rooms as long as 30 ft., up to 800

Simple, rugged, *and easily used by service men and contractors, this air-flow —indicator reads from zero to 1,000 feet per minute (fpm). You can't do a thorough job of furnace-duct heating without the help of an air-flow instrument. This old-style floor supply register shows 340 fpm.*

fpm is good for high side wall registers.

The figures above are thumb-rule figures, good for tuning up new jobs. Of course, you can use lower fpm later for any registers that overheat rooms, therefore should be tuned for lower cfm. Where this improves air circulation and does not give drafts, you can use higher fpm to give more heat to rooms that need this.

2. Use the air-flow meter to find out if a system comes up to its design basis.

You can do a lot of wondering about a feeble or underpowered system if you don't have an air-flow instrument handy. Where a system supposed to provide 400 fpm at every supply register does not heat the house on coldest mornings, you use your meter to determine specifically whether or not the air-flow from the registers is up to 400 fpm. Often there's the need to find out if the design is poor, or if the system simply does not perform the way it was designed to perform.

3. Find out with the air-flow meter if complaints about discomfort are caused by unreasonably high fpm.

Here you use the meter only on the supply registers the owner complains about. With the air speed higher than it should be by 200 to 500 fpm, you no longer question the fairness of a complaint. One dealer ascertained with his meter and a room temperature thermometer that unless two high side wall registers gave out at 1,000 fpm a large living room was underheated, and he had to decide between (a) installing additional supply rgisters at once, and (b) trying to ward off drafts by installing two special registers on the existing outlets, and adjusting these registers to spread and diffuse the warm air a few feet from the outlets.

4. Use the air-flow meter to find out if a certain outlet is crippled.

Where only one room is underheated and the register and duct for the room seem of ample size, the air-flow meter is applied to only the register in that room. You find out instantly if the fpm is too low for proper heating. With the fpm up to par, however, you look for other reasons for the room's being underheated.

Here the same *compact, self-contained unit is used to read the fpm of a modern side wall supply register. This instrument reads return velocities as well as supply velocities, and can be put on an extension to obtain readings from ceiling and high side wall registers. No climbing up on a chair or ladder!*

5. Find out if your typical supply registers give a blast of air on one side.

It's not right, of course, but on the typical installations made by some dealers there's a great blast of air from one side of each supply register, while the other side of each register is dead or nearly dead. Where it was assumed that air at 500 fpm would come from the entire face of one wide, low side wall register, actually a meter showed higher than 1,000 fpm at the extreme left of the register, 600 fpm in the center, and 150 fpm at the right side. Correcting this was not easy and inexpensive, but was necessary in this case for proper air flow and draft-free heating.

6. The air-flow meter is used to obtain a numerical evaluation of the trouble on a trouble job.

On a job that gives you persistent headaches, it may be worthwhile to go through the work of determining the actual cfm of the system compared to the cfm of the design basis or theoretical basis. Sometimes you do this for one room or one section of a building, sometimes for an entire building. You've got to have a fairly accurate fpm instrument, and you've got to know cfm and fpm figuring backwards and forwards. Problems which otherwise were baffling have been solved by the procedure, however, and a man's not a heating expert unless he can go through the measuring, instrumentation, and calculating which are involved.

Use of your air-flow meter may show you that the total cfm through a furname is 30% higher or 30% lower than was figured for the design basis. For every system, there are three pertinent cfm figures: (1) the actual cfm of the system in operation, (2) the minimum cfm for proper heating of the building, and (3) the design cfm, which the engineer who planned the system intended it to provide. Of these three figures, the first is most important once a system had been put into operation. It can be ascertained through the expert application of an air-flow instrument.

7. Use your air-flow instrument to evaluate the improvements you try out on a sick system.

Often a dealer obtains more air from a sluggish supply register by installing a scoop or a modification of a splitter damper in the main duct, where the small duct for the register starts. A service man returned to the shop after doing this, and his boss asked him if the scoop helped.

"Seems to," said the man, "By the feel of the air blowing out of the dead register, there seems to be more heat for the room."

Such an answer has little satisfaction in it. Taking no more time or even saving time, the man could have used an instrument then told his boss how much the fpm was increased by the attempted improvement. To raise the cfm of a sick register from 150 to 550 means something.

8. Checking plugged filters.

Did you ever get into an argument with an owner about replacing filters that seemed plugged to you but clean to him? Next time, settle it this way, but make sure beforehand that you're right. Read the fpm of a living room register with the plugged filters in place. Then remove them, install new filters, and read the fpm again. Sometime, gain additional information for yourself by checking the fpm of an important register with filters in the furnace unit, and without any filters. Also, if you can't make up your mind about which make of filters you prefer.

you can gain one point of information by trying out the different makes that interest you. Read the fpm that results at a certain register of a typical job from trying out one filter, then try out the other makes and obtain corresponding fpm figures. Bear in mind that ease of air-flow through a filter is but one item of interest in comparing different filters.

9. Measure the effect of changing the blower speed.

As part of their everyday work, furnace experts slow down and speed up circulating blowers by changing or adjusting motor sheaves. Occasionally some men switch to smaller or larger circulating blowers to reduce or increase the cfm of an oil-fired furnace unit. The effects of making these changes are difficult to estimate, and a man aiming to alter the cfm of a system by 10% to 20% may hardly effect it at all, or may alter it by 50%.

The use of an air-flow meter cuts out the guessing. Before you try to increase the cfm by, say, 20%, read the fpm at a convenient and important supply register. Make your change in the speed of the blower. Then read the fpm again, exactly as you did before. If you succeeded in upping the output of the register by 20% in terms of fpm, you succeeded in upping its cfm by 20%. Form the habit of using your velocity instrument in this way, and you'll become much better at changing blower wheel speed to gain improved results.

10. Study twin outlets and other odd-type outlets on a fpm basis.

Two baseboard registers fitted to one stackhead are no good according to many contractors, yet when forced to install such arrangements often the contractors conclude reluctantly that the twin outlets work after a fashion. To gain knowledge on which you can base solidly-formed conclusions of twin outlets and other odd arrangements, use your air-flow meter on such arrangements at every opportunity.

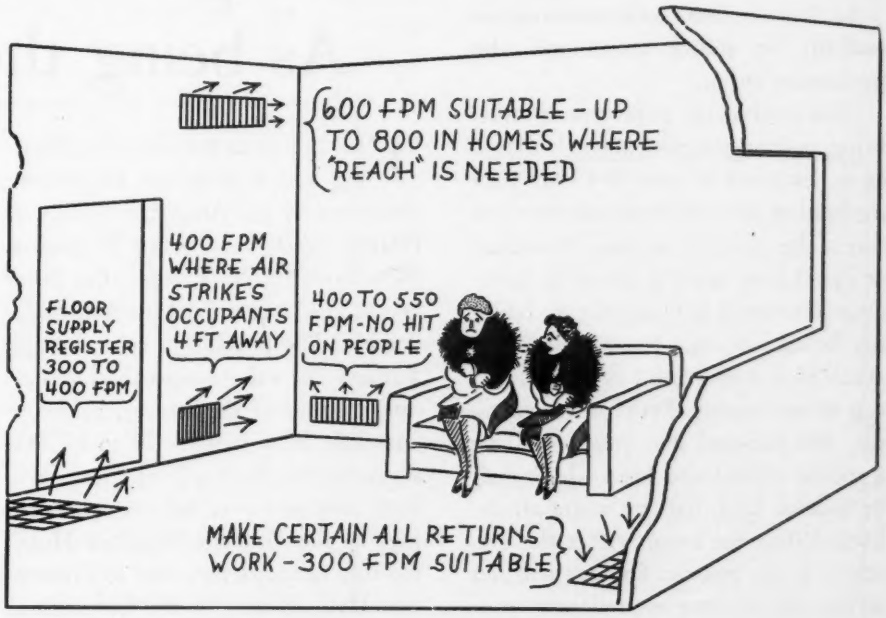
11. Arriving at best C.A.C. results.

Today, continuous air circulation is the thing. According to the C.A.C. principle, the circulating blower is supposed to run continuously on any day when appreciable heat is needed, or at least on any day when the outside temperature is below about 40°.

If you are C.A.C. minded or at least want to make a determined effort to obtain the best C.A.C. results on one certain installation, then here's a specific use for your air-flow indicator. Try to select a job with a design firing rate of 1.5 gph or higher, for you will cut the cfm rate of the furnace considerably, and you'll want to cut the gph rate by about 30% to avoid having the burner started and stopped dozens of times a day by the high limit control on the furnace.

Judge the design fpm of the important registers, then use your air-flow indicator to adjust the entire system for about 30% lower fpm than you believe is the design basis for the system. Arrive at these results by lowering the speed of the blower and setting the balancing dampers carefully as outlined previously in item #1. Cut the firing rate of the oilburner by 30% also. Aim to have the burner run many hours on the coldest day, perhaps a total of 16 to 18 hours on a day of design coldness. Aim to have the fpm of every register (and the total cfm of the system) so low that on coldest days the temperature of the air delivered to the rooms will be as high as is feasible, perhaps 150° to 170° as the job conditions permit. All this is applying practically the ideas that (a) usually the actual heat losses of a house are at perhaps 30% lower than the best Btu heat loss figures for the house indicate, and (b) a typical home receives much heat from things other than its supply registers, although this is not taken into account in designing a heating plant. The result of neglecting these two items is that with continuous air circulation the temperature of the delivered air runs about 40° lower than is designed for, on a day of design outside coldness or lowest outside temperature, and therefore air which is heated only slightly comes from the supply registers during typical winter weather, causing complaints about cold drafts. If you reduce the fpm of every register to 30% below the design level, the registers will give 150° to 170° air on coldest days even with the blower running continuously all day, and the registers will deliver air fairly warm, at perhaps 120° minimum, with the blower running continuously on typical winter days when the outside temperature hovers between 25° and 40°.

For C.A.C. enthusiasts, the air-flow instrument is, then, invaluable. It permits them to reduce the fpm of each register to the minimum needed for proper heating in coldest weather, yet gives them assurance against cutting the fpm so much as to result in com-


600 FPM SUITABLE - UP TO 800 IN HOMES WHERE "REACH" IS NEEDED
400 FPM WHERE AIR STRIKES OCCUPANTS 4 FT AWAY
FLOOR SUPPLY REGISTER 300 TO 400 FPM
400 TO 550 FPM - NO HIT ON PEOPLE
MAKE CERTAIN ALL RETURNS WORK - 300 FPM SUITABLE

Your customers *are not cozy and warm unless your furnace-duct systems provide the proper air velocities at every supply register and every return. An expert at winter air conditioning knows the fpm performance of his systems. Balancing a small system and determining all its fpm readings takes only 30 minutes.*

plaints about underheating during coldest weather. You can't get best C.A.C. heating without making excellent use of an air-flow instrument!

12. Use your air-flow instrument to measure the amount the fpm of a register is reduced by adjusting the vanes or straighteners of the register.

When you adjust certain registers for considerable spread of the air they emit, or for considerable downwards or upwards flow, you necessarily reduce greatly the free-air openings of the registers. This cuts the cfm, and the heat output. To know what you are producing in the way of actual results, measure the fpm and cfm of registers when you adjust them in this manner.

13. Measure the effect of switching to registers of different designs.

Related to previous item #12 is the matter of switching to different registers on a trouble job to gain greater free-air register opening, counting or not counting the effects of adjusting the air-flow from the registers. Where certain registers on a trouble job are great blockers of air-flow, switch to more suitable registers that let through more air. But make certain to use your air-flow instrument to measure the gain. You can learn much about the merits and disadvantages of different makes and types of supply registers by using your air-flow instrument.

14. Get the facts on systems of the radiant or panel type, and the perimeter type.

This involves the same type of measuring, instrumentation, and calculation as is described in item #6, but with the help of your air-flow indicator you can make exacting studies of radiant or panel type heating plants to determine how much heat is given the building by surface-type heating, and how much heat is delivered as a direct result of air heating. Perhaps, for example, you believed that you would use a special system and heat a room half by radiant heat, half by warm air delivered into the room. After the system is in use you can find out whether or not you've come even close to your objective . . . you can find this out, that is, if you use your air-flow instrument to give you the figures on which you'll base your computations.

Aside from that phase of special systems and their performance, you need air-flow readings from many such systems simply to put them in balance so they'll perform satisfactorily.

15. Find out if you are installing unnecessary returns on typical jobs.

There are heated arguments among furnace enthusiasts about just how many returns are needed for typical, small homes of low heat loss. For example, one expert declares that never does a four-room house need more than two return grills, while another states that best results often come of using four or five returns for such a house. Use your air-flow instrument on the return grills of typical installations already in use to settle such arguments and to give you dependable data on which to build your design bents for your new installations. In you believe it's silly to put a return in every room because most of them won't draw in worthwhile amounts of air, try to prove this on actual installations using your instrument. If you believe that on a certain job the only return grill is overworked and should be helped by an additional return grill, prove that with your instrument. Used this way, the fpm readings give substance to your arguments and beliefs.

Of course, you use the instrument also to balance return systems. Aim for a maximum of 300 fpm at any return located near where the occupants generally sit. But to put to work all the returns which were installed, aim for a minimum of 100 or 150 fpm at every return grill.

As can be judged from the dozens of points in this article which bear on this, the extensive use of an air-flow meter on scores and scores of installations is a direct help in designing new systems. Knowing the fpm pattern that resulted from following one design motif, a contractor easily arrives at a different pattern for his new jobs if he desires this. The results of excellent duct system design and excellent selection of registers come out as proper fpm readings.

An articles to be published in the near future will deal with more complicated aspects of using an fpm meter, and will cover the computations that relate fpm (feet-per-minute air velocity) readings to cfm (cubic feet per minute of air handled). By applying these computations, a dealer finds out from his air-flow indicator whether or not a supply register or return grill handles the amount of air, in cfm, which the design of the system intended it to handle.

Heating Show seen As being the largest to date

THE TENTH INTERNATIONAL Heating and Ventilating Exposition, sponsored by the American Society of Heating and Ventilating Engineers, New York 10, N. Y., opens on January 22 at Commercial Museum, Philadelphia. The Exposition runs through January 26, a day longer than the annual meeting of the Society, held concurrently from January 22 to 25. Sessions on the Society's program have been arranged to be held in the mornings at the Bellevue-Stratford Hotel, meeting headquarters, and at Convention Hall, adjacent to the Commercial Museum, in the afternoons.

Innovations in equipment and application of heating, ventilating and air conditioning equipment will feature equipment exhibits at the Exposition. Exhibit space has been sold out for some time with the show described as the largest of its kind ever held.

The first session of the Society's program will be held on Monday morning, January 22, with ASHVE president Lester T. Avery, presiding. The Committee on Research will report at the morning technical session the following day, Robert C. Cross, chairman of the Committee. "Man and his relationship to air" is to be the subject of a symposium by leading scientists and engineers, scheduled for January 24. Dr. Eugene F. DuBois, professor of Physiology at Cornell University Medical College and medical director, Russell Sage Institute of Pathology; Dr. Rob-

ert W. Keeton, head of the Department of Medicine, University of Illinois and Charles E. Leopold, consulting engineer of Philadelphia, are among those who will participate. Nathaniel Glickman, assistant professor of medicine and research physiologist, University of Illinois Medical School, will act as moderator.

In all six sessions will be held during which 17 papers will be given, including discussions of combustion studies on bituminous coal, fueloil and smoke measurement, electrostatic precipitation, heat pump performance, effective heat for steam heated structures, solar radiation, panel heating and cooling.

Registration of guests and members for the meeting begins on Sunday, January 21 at the Bellevue-Stratford and will continue through Thursday. A. J. Nesbitt is general chairman of the Committee on Arrangements; M. F. Blankin is honorary chairman of the Committee and F. H. Buzzard is vice chairman.

A well-arranged selection of events has been designed to enable visitors to explore the entertainment and historical possibilities of the Quaker City. This portion of the program opens with a Welcome Tea on Sunday and continues with a get-together luncheon the following day. Entertainment has been scheduled to avoid conflict with the more serious purposes of the meeting, with special attention paid to the ladies. The program for them will include a fashion show, tea parties and sightseeing tours.

Chairmen of the special committees for the meeting are: M. E. Barnard, banquet; E. K. Wagner, entertainment; C. F. Dietz, exposition; A. C. Caldwell, finance; E. H. Dafter, ladies; W. P. Culbert, publicity; J. O. Kirkbride, reception; John Everetts, Jr., sessions and Isadore Director, transportation.

List of Exhibitors*
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Commercial Museum, Philadelphia, Pa.
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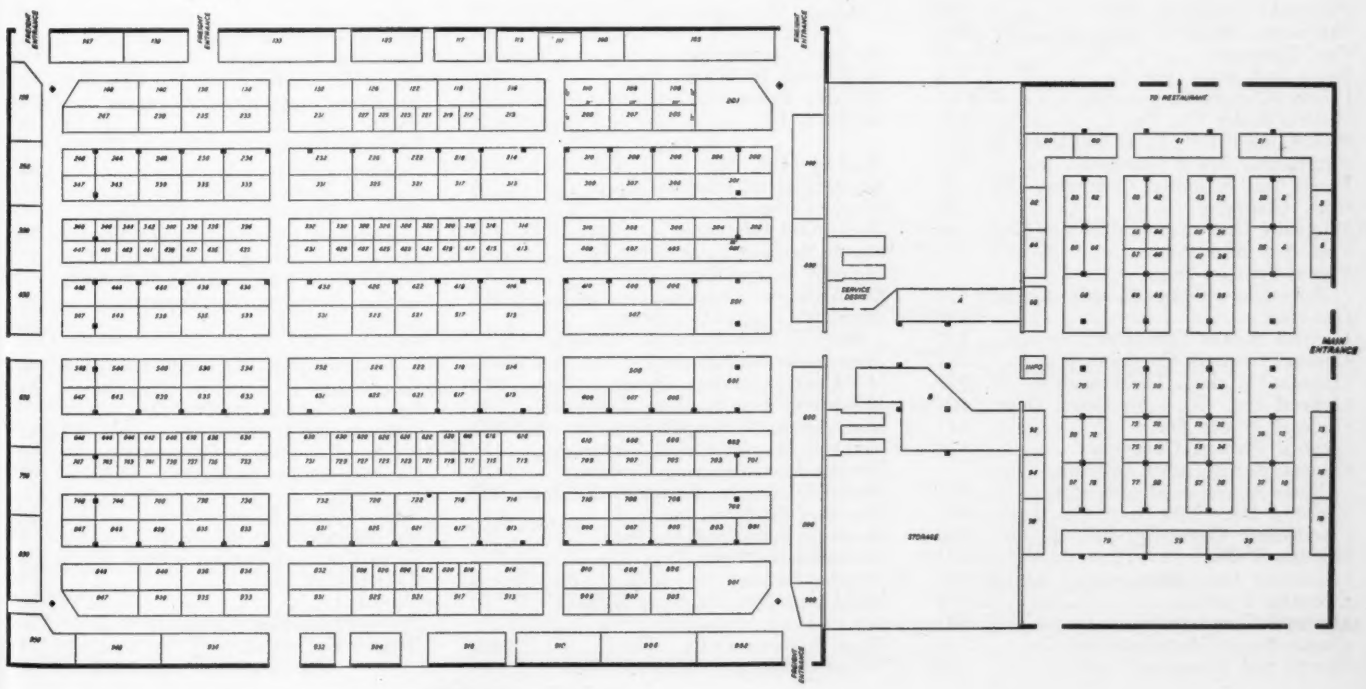
*As of December 22, 1950.



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Importance of Oilburner Nozzles

Part II—Their effect on Combustion

by
K. J. Whittet*,
H. G. Murray*
and C. L. White*

IT WAS REASONED THAT operation of a burner at higher pressures than 100 lbs./sq. in. might change the spray characteristics enough to considerably improve combustion. Since most domestic gun burner pumps are limited to a working pressure of 150 lbs./sq. in. this was used as an upper limit. Atomization at pressures much below 100 lbs./sq. in. was obviously poor; therefore, our studies were conducted over an operating range of 100-150 lbs./sq. in. pressure.

A fuel spray is made up of many sized droplets, some very small and some larger ones. As pressure is increased the relative number of small droplets increase. However, over a range of pressures from 100-150 lbs./sq. in. this change would not be very pronounced.

In the test work a group of ten 1 gal. nozzles were fired at pressures from 100 to 150 lbs./sq. in. in a conventional gun type burner, and in a 100 sq. in., 18 in. high, combustion chamber. The results of these tests shown in Figure 7 indicate that increasing pump pressure has no consistent effect on combustion. The results obtained on the eight nozzles shown in this graph show that four were unaffected, one was considerably improved, and three were definitely worse in their combustion characteristics. On 7 out of 8 a pressure of 100 lbs. was as good or better than any other pressure up to 150 lbs. These results are typical of those obtained on many more nozzles.

Since there was no consistent pattern of performance in these tests it was reasoned that pressure had more effect on the spray pattern or distribution than it had on the size of the atomized fuel particles. To study this some oil was dyed a deep red and the spray patterns of some of these nozzles roughly checked by instantaneously spraying the oil onto a flat piece of filter paper. In these tests it was noted that on most nozzles pressure had almost no effect on spray pattern, but that on about one out of five there was some change, either to improve or to degrade the spray pattern. These tests were qualitative in nature, but did help to explain the inconsistent performance of nozzles at varying pressures.

From a practical standpoint, an increased fuel rate may be obtained from a given nozzle by increasing pump pressure. But it must be remembered that the increase in fuel rate will require a corresponding increase in excess air to prevent smoking. However as already pointed out an increase in pump pressure will sometimes decrease combustion efficiency by degrading the spray pattern of the nozzle. This can be checked by determining the highest CO_2 setting with satisfactorily low smoke that can be obtained at the pump pressure used.

Considerable trouble has been encountered in trying to operate oilburner pumps at pressures over 130 lbs. At 140 lbs. the pressure is difficult to keep adjusted, and at 150 lbs. there have been seal failures. Therefore, we feel that to be safe oil pressure should not be set above 130 lbs. in present equipment.

Starting smoke has generally been attributed largely to the time required for a combustion chamber to heat up to temperature required for complete burning of the fuel. However, our work on nozzles has led us to believe that this smoke is caused more by the effect of temperature on the nozzle itself and that the combustion chamber is of secondary importance. When a nozzle is calibrated cold it will deliver say 1.0 gph, but when the same nozzle has been operating for 30 min. to one hour its fuel rate will often drop off to 0.9 gph or even less depending on the nozzle make and design. Therefore, if we originally set the burner's air shutter to give a ½ smoke (Bacharach scale) after about one hour's operation this will supply only enough air for the 0.9 gph rate. However, when on the next day the burner is started it will deliver 1.0 gph at first and there will not be enough air supplied to get the smoke down to ½ until the nozzle has heated up to about the same temperature as when it was originally set. In cycle operation the same effect, to a lesser degree, is experienced because the nozzle cools appreciably between cycles.

In order to check this theory a burn-

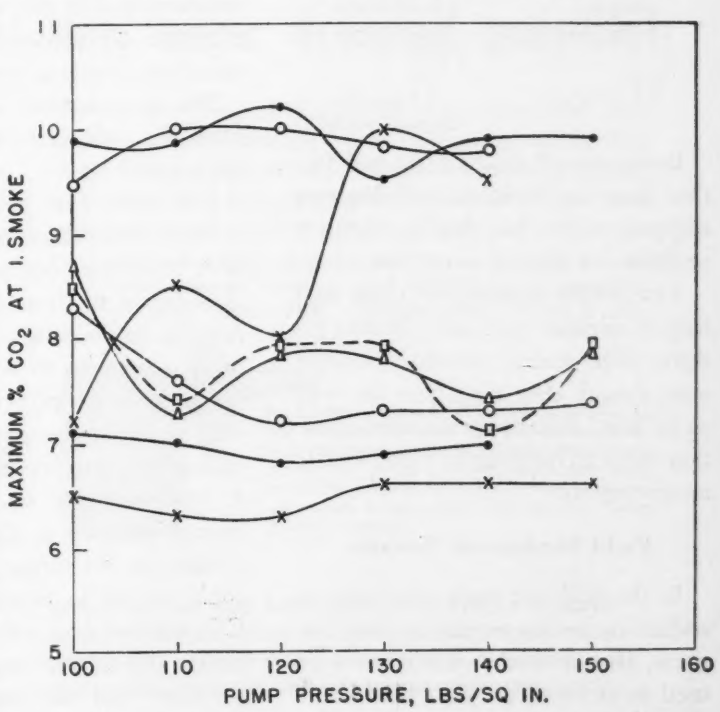

FIGURE 7 EFFECT OF PUMP PRESSURE ON COMBUSTION OF TYPICAL I. GAL NOZZLES.

*Socony-Vacuum Oil Co. laboratory, Technical Service Department, Brooklyn, New York.

er was fired for one hour and the air then adjusted to give a 13% CO_2 reading at ½ smoke. When this burner was fired from a cold start the next day, the starting CO_2 was over 14% and the burner smoked badly taking about 10 minutes to get down to a satisfactory smoke of 2. The burner was operated on a 15 min. on—45 min. off cycle and the amount of smoke was gradually reduced during each successive cycle until equilibrium was reached. At this point about 4 minutes were required on each cycle for the flame to clean up enough to get the smoke down to 2. In order to compensate for this effect the air shutter was then adjusted to cause the burner to operate with 11% CO_2 and the cycle test repeated. A comparison of the amount of smoke formed during the two tests shown in Figure 8. These results show that a burner must be adjusted to have enough excess air to take care of the maximum fuel rate of the nozzle in order to clean up starting smoke.

In the field a burner should be adjusted to find the air setting that will give the highest CO_2 at about ½ to 1 smoke, then 10-20% more excess air added by opening the air shutter. The final setting should be made about as follows:

Maximum % CO_2 After 20-30 Minutes Operation, ½-1 Smoke	*Final Setting to Compensate for Cold Starts*
13.0 or over	11.0
11.5	10.0
10.0	9.0
9.0 or below	0.5 less than original setting

Better cut-off mechanisms will further clean up the starts and eliminate stopping smoke, but this is a separate problem not related to nozzles.

The results obtained on these tests help to explain why many boilers get dirty after several months operation even though they have been set with clean fires. Also, why summer operation tends to build up so much soot in many systems.

Field Studies on Nozzles

In the field test work numerous installations having typical boilers, furnaces, burners and fuel systems were used in order to get data that would be generally applicable to the majority of installations throughout the country. By using the following instruments it was possible to study some of the variables under field conditions that were being studied in the laboratory:

(1) Orsat type CO_2 analyzer.
(2) Calibrated mercury thermometer (Stack Temperature).
(3) Draft gauge.
(4) Continuous Socony-Vacuum smoke meter (smoke).
(5) Calibrated rotometer (fuel rate).

By using these instruments it was possible to study the effect of pump pressure on combustion, effect of temperature on fuel rate and the amount of excess air needed to insure clean operation over long periods of time.

The data obtained in the field confirms the laboratory results already discussed.

Fuel rates were found to decrease as the nozzles became hotter. Fuel rates after 20 minutes' operation were found to decrease by from 5 to 20%, depending on the make of nozzle and the firing conditions to which the nozzle was subjected. Further, it was found that to adjust burners to operate in such a way as to prevent boiler sooting it was necessary to give the units enough extra air to allow for starting conditions. No burner was found that could be set to operate above 12% CO_2 without gradually sooting up the boiler, and thus increasing stack temperature and decreasing efficiency. When these burners had been readjusted to a slightly lower CO_2 they were able to operate over a complete heating season without depositing very much soot and stack temperatures remained practically level. And, as in the laboratory, increased pump pressure, improved combustion performance in some nozzles, had little effect in others, and in some cases had an adverse effect.

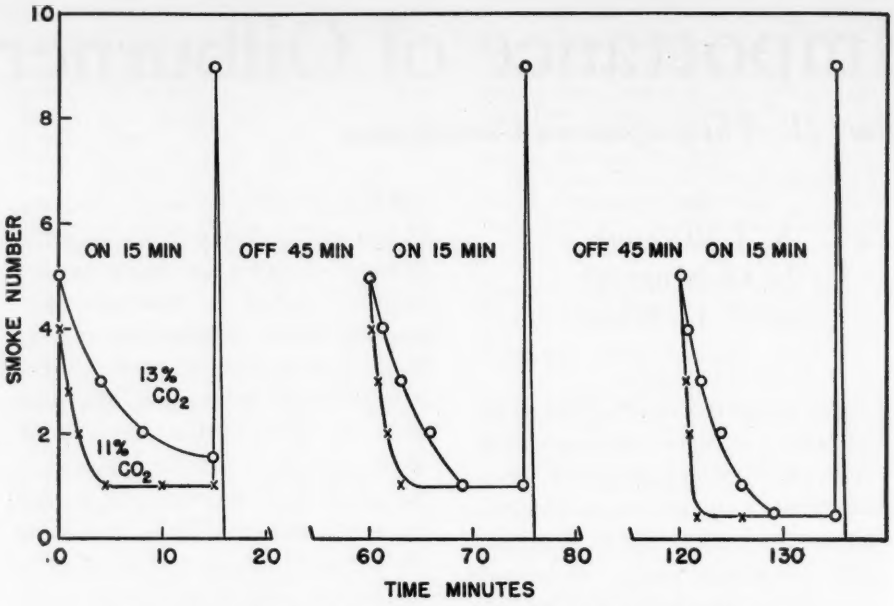

FIG. 8 EFFECT OF EXCESS AIR SETTING ON STARTING SMOKE

Nozzle Plugging

In the field work it was found that extreme care must be taken to thoroughly clean and flush the fuel system, if any part of the pump or nozzle is disassembled. At least one quart of oil should be flushed through the fuel line with the nozzle off to remove dirt or sediment which may work loose and later plug the nozzle. When this practice is not followed repeat service calls or plugged nozzles often occur. In our field experience we have had very few cases of nozzles plugging after a fuel system has been properly cleaned and flushed.

Nozzle Coking

It was found in the field that nozzle coking is most prevalent in the installations firing under 1.25 gph. This would be expected since the lower capacity nozzles are subjected to higher temperatures than are the larger capacity nozzles, also the orifices are much smaller and require less foreign material to plug them. However, in most cases it was found that actual nozzle coking occurred more often in burn-

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ers with poor cut-off characteristics.

Apparently a poor cut-off can be lived with at the higher fuel rates, but is likely to be troublesome on those units operating at about a gallon or less. The tabulated data shows the different temperatures to which nozzles are subjected in typical burners:

Fuel Rate, gph	*Size of Chamber, sq. in.*	*Nozzle Temp. °F. @ 10% CO_2*	*Nozzle Temp. °F. After Cut-Off*
0.5	60	395	475
1.0	100	260	330
1.5	150	180	240
2.0	200	165	215

This data shows why a small capacity nozzle requires a good cut-off in order to subject a minimum amount of oil to these higher temperatures.

Our Laboratory and Field work on oilburner nozzles have been presented in this paper not to show how bad or good these nozzles are, but to give to the oilburner field a picture of actually what they have to work with and what burner operating conditions can do to affect a nozzles' performance. We feel that this type of information should go a long way towards educating our industry to do a more intelligent job of installation and service on oilburners and thus help to improve our competitive position with gas and other fuels, and at the same time improve customer acceptance of oilheating.

Conclusions

Our principal conclusions on evaluating a large group of nozzles obtained from the more prominent manufacturers indicate:

(1) *Calibration*—Nozzles are generally poorly calibrated, most nozzles delivering considerably less oil than rating. The nozzles from some manufacturers are apparently better calibrated than are others.

(2) *Pump Pressure* — Increases in pump pressure increase the fuel delivery rate of a nozzle by about 4% for every 10 pounds increase in pressure.

The use of higher pump pressures improves the combustion characteristics of some nozzles, but degrades others. Apparently each nozzle has an optimum working pressure to get the best combustion efficiency.

(3) *Fuel Properties*—Variations in properties of fuels having the same viscosity have little effect on the fuel delivery rate of a nozzle. Nozzles deliver more fuel as the viscosity of the fuel increases up to 50 SSU.

(4) *Nozzle Temperature*—Increase in temperature decreases the fuel rate of a nozzle, especially during burner operation when nozzles are heated to temperatures of 150-450°F. In burner operation, nozzle temperature may go as high as 450°F. depending on firing rate, combustion chamber size, degree of overfiring, and the excess air setting of the burner.

Since burner air settings are made after the nozzle has reached an elevated temperature, smoking during starting from a "cold start" or during cycle operations largely caused by the increased fuel rate of the cold nozzle for which the air supply is inadequate. It is important, therefore, in setting a burner to allow 10-20% excess air to help prevent starting smoke.

(5) *Nozzle Pluggings* — can be greatly reduced by proper cleaning and flushing of fuel systems.

(6) *Nozzle coking* is primarily caused by excessive nozzle tempera-

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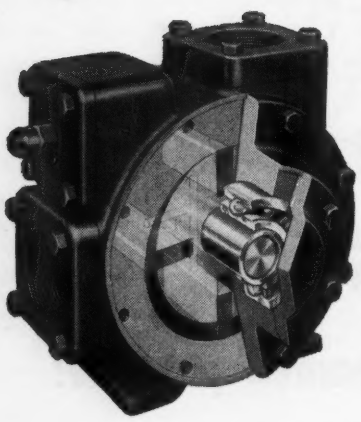

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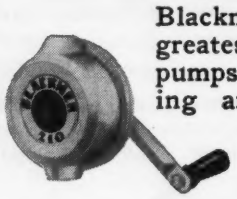
Note the vane placement in the phantom pump above. Vanes are self-adjusting for wear. If the vanes eventually wear to the extent of lessening efficiency, they may be easily replaced at little cost.



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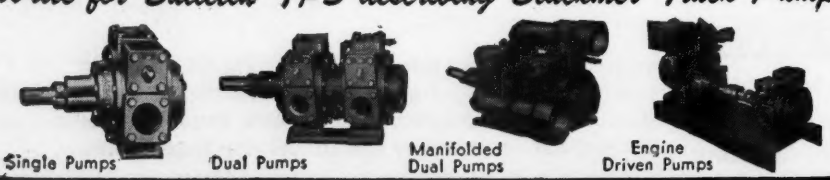

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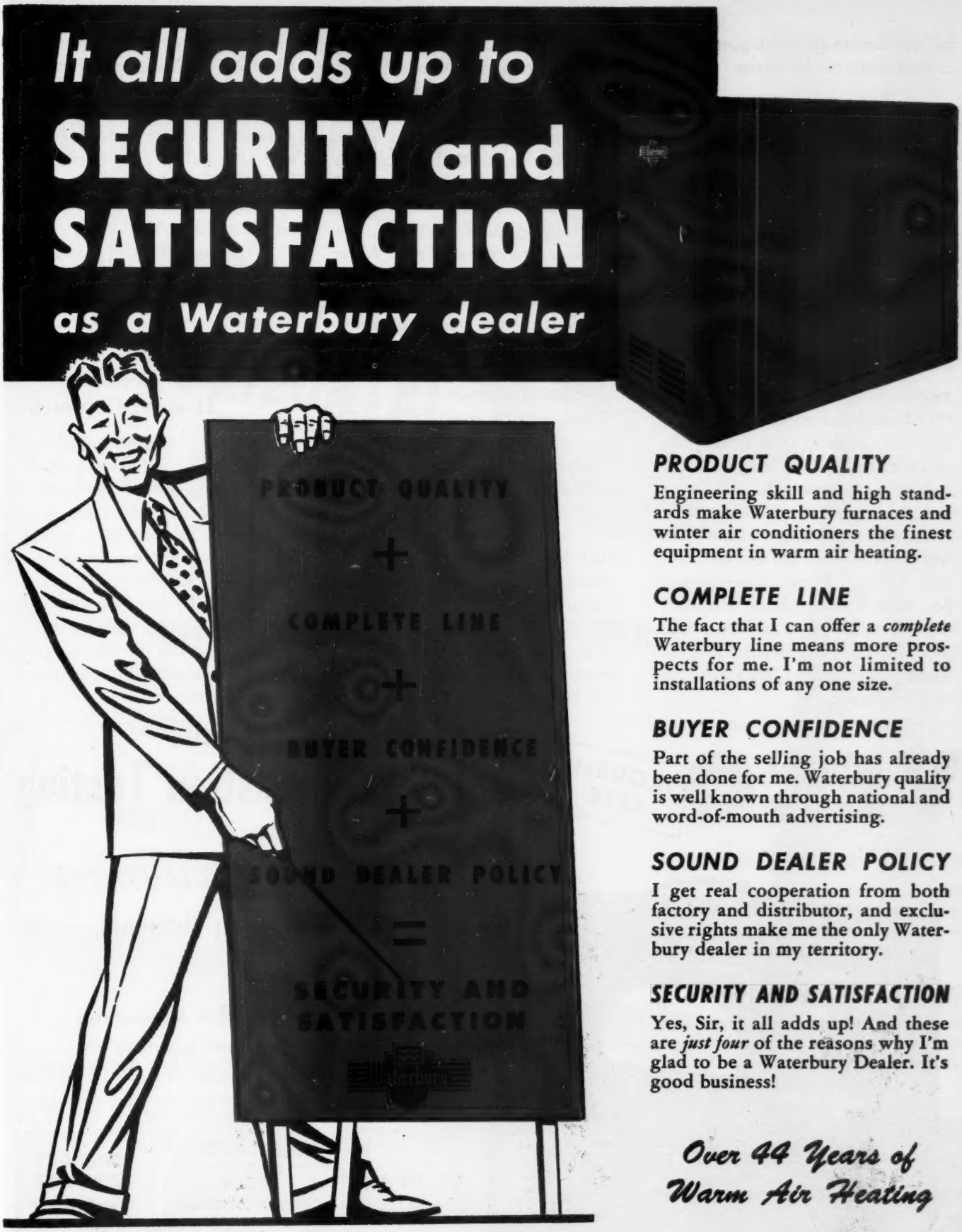

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tures in combination with poor cut-off characteristics of the burner.

ACKNOWLEDGMENT

The authors wish to thank Mr. T. G. Roehner and Mr. E. B. Delgass for making this work possible. Most of the data used in this report was supplied by Mr. C. L. Patterson, Mr. L. D. Tredick, Mr. J. O'Buck and Mr. A. B. Lake of our Burner Fuels Division.

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Name first Members Of Staff for PAD

THE MEMBERSHIP of the staff of the Petroleum Administration for Defense was listed in *Petty's Oil Letter,* issue of December 9. They include: Secretary of the Interior Oscar Chapman, Administrator; Bruce K. Brown, Pan-Am Southern, Deputy Administrator and Hugh Stewart, Oil and Gas Division, Assistant Deputy Administrator. Mr. Stewart will continue as director of OGD and heads up production matters with Paul Whitney handling domestic production and Jack Paulin, foreign production.

Named as special assistants to the Deputy Administrator were Al Frame, Cities Service, refining and technology; Carroll Fentress, OGD, liaison with industry and government agencies and George Gibson, Ex-Bechtel, facilities. Two consultants to the Deputy Administrator are Elmer Batzell, Ex-PAW; Justin Wolf, Ex-PAW, who may be general counsel. Frank Watts, Humble, is in charge of the materials division; Cecil Burrill, Standard of New Jersey, heads the program division; William J. Littlejohn is administrative officer and Bernice Kirschling, OGD, general assistant.

There are six aviation gas specialists on loan to OGD from their companies, in addition, while John Boice, OGD, is working on PAD's transportation problems and E. B. Swanson, who continues with OGD, will be available to help PAD.

George Parkhurst, Oronite and Standard of California, and George Hill, Cities Service, are assisting PAD on financial matters; Terry Duce, Aramco, is helping with foreign matters; Henry C. Foss, California Co., is working mainly on financial matters. Also, Sol Brachman, Fort Worth, may come in to help on materials; Frank Grant, Ex-PAW and now with Consumers Co-op Assn., may be asked to help on refining; Don Carroll, with ECA in Korea for more than a year and who flew out of Seoul on December 1, may join PAD.

J. A. Parten, Woodley, and J. Howard Marshall, Ashland, still are acting as consultants to Petroleum Administrator Chapman.

❖

Indianapolis licensing Heating Contractors

AN ORDINANCE recently passed by the Indianapolis (Ind.) City Council requires heating contractors to apply for a license before installing heating equipment. The ordinance creates a board of five members "to safeguard life, health and property."

Three of the board members are to be appointed, with the city building commissioner and the director of the Fire Prevention Bureau serving as ex-officio members.

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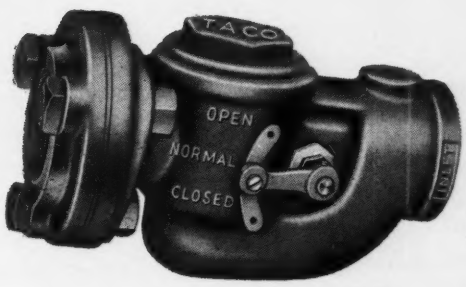

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fueloil & oil heat

OHI Chicago Convention To hear of vital Issues

THE FIVE DAY National Oil Heat Exposition and Annual Convention to be held by Oil-Heat Institute of America, Inc., New York 16, N. Y., will open April 2 in Chicago and may establish "a blueprint for the entire industry for years to come," according to President A. T. Atwill. Exposition displays will be located at the Navy Pier, world's largest exhibition building, and the Convention sessions will be held at the Palmer House.

Mr. Atwill said, "Next year may well be the 'year of decision' in planning the future of our great industry. Certainly the business sessions during the coming Convention will be of the greatest importance to everybody in the oilheating equipment industry." He indicated that some of the problems of a "No war and no peace" economy to be discussed are manpower and material shortages, material substitutes, sales plans and competitive position.

The exhibition of oilheating equipment is to run concurrently with the business sessions and is described by Ralph Becker, managing director, as promising to be the greatest ever held. "Next year's Exposition," he declared, "which will be attended by dealers and distributors from all over the world, will be even larger than the great 1950 show in Philadelphia."

Floor plans and price schedules for exhibitors are to be available about December 26. A company need not be a member of the Institute to exhibit eligible products. Full information can be secured from the Oil-Heat Institute of America, 6 East 39th St., New York; telephone: Murray Hill 5-1638.

The meeting is to be OHI's 28th Annual Convention and the 19th National Oil Heat Exposition.

U. S. Department of Labor Fueloil Prices (October)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken October 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	14.40	14.23	12.30	..
Manchester	14.80	14.30	12.80	..
Portland, Me.	14.10	14.15	12.10	..
[3] Buffalo	14.78	..	13.57	13.48
[1] New York	..	..	12.38	..
Philadelphia	..	13.10	11.80	..
[1] Chicago	14.32	13.97	13.06	13.06
[4] Detroit	..	14.21	13.18	..
Milwaukee	..	14.54	13.60	13.50
[1] Kansas City	..	12.24	11.22	11.22
Minneapolis	14.97	14.73	13.68	13.73
[1] Baltimore	..	13.23	12.15	..
[1] Wash., D. C.	..	13.33	12.34	..
Jacksonville	..	14.17	12.75	..
Norfolk	..	13.35	11.95	11.95
Richmond	..	13.75	12.30	..
[2] Savannah	..	15.00	13.00	..
[5] New Orleans	..	14.33	12.77	12.77
Portland, Ore.	..	14.36	12.06	6.55
[6] San Francisco	..	13.84	11.51	6.48
[4] Seattle	..	15.35	13.14	6.74

[1] Prices include 2 percent tax.
[2] Inspection tax of one cent per gallon included on kerosene only.
[3] Prices include 1 percent tax.
[4] Prices include 3 percent tax.
[5] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fueloil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Prices include 3.5 percent tax on all fuels except gas.

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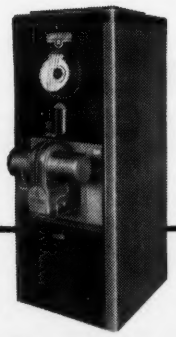

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So, why be among the late-comers? Set your sights on learning more about KO-Z-AIRE's money-making Progressive Profit Program right away . . . and join the expanding army of dealers who are enjoying bigger sales and profits selling the KO-Z-AIRE line!

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Service Manpower deferment Is doubtful at present

WHEN THE FIRST listing of essential industries and critical occupations was drawn up by Washington's interagency manpower committee, heating was listed as an essential industry but nothing specifically was mentioned about oilburner mechanics. Accordingly they were looked on in the critical listing of "maintenance mechanics."

Later a ruling was made that this name applied only to factory personnel, so burner service men were not considered critical. The present policy of the committee, under prodding from manpower director Hershey, is to cut down the present list. Actually it is soon to be discarded altogether and a much tighter classification of "indispensable occupations" is to be set up.

Since the initial list was issued in August, hundreds of industries have appealed to have their men put on. The only addition allowed to date has been masters of steamships . . . not the mates, not the chief engineer, just the master. Everything else has been turned down.

The big problem Hershey faces is getting enough able-bodied men between the ages of 18 and 26. Curiously, there are in the country today 700,000 less men in this age group than at the start of World War II, in spite of the general growth in population. It's because so few babies were born in the depression years.

The Distribution Division of OHI is engaged in a worthwhile study to be able to answer a lot of questions asked by the manpower group, questions listed at the time an appeal was made on behalf of our men. The study will be excellent material to get into the committee's records for future consideration.

Of course, the local board has the final word on every man. The essentiality and indispensable lists are given them solely for guides. The individual dealer can sometimes prove his case to them.

❖

Two Explosions along Natural gas Pipeline

NEWSPAPER ACCOUNTS late in November told of two explosions within two days along the Texas-to-New York natural gas pipeline. The first, on November 23, tore up a mile of the pipeline between Norristown and Phoenixville, Pa., rocking the area for seven miles in all directions. Blinding flames shot 300 ft. into the air, searing trees and grass, with huge chunks of the metal pipeline thrown with rocket speed into surrounding fields. Two persons were slightly injured.

The second blast happened on November 25, during the severe storm that swept the eastern and central portions of the country on that day. The explosion sent a powerful stream of burning gas hundreds of feet into the air near the town of Little Rocky Hill, N. J. The storm, with its accompanying heavy rain, was credited with saving the woods and homes near the blast from destruction, according to one eyewitness.

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LAU

offers you the ALL NEW, refined and improved

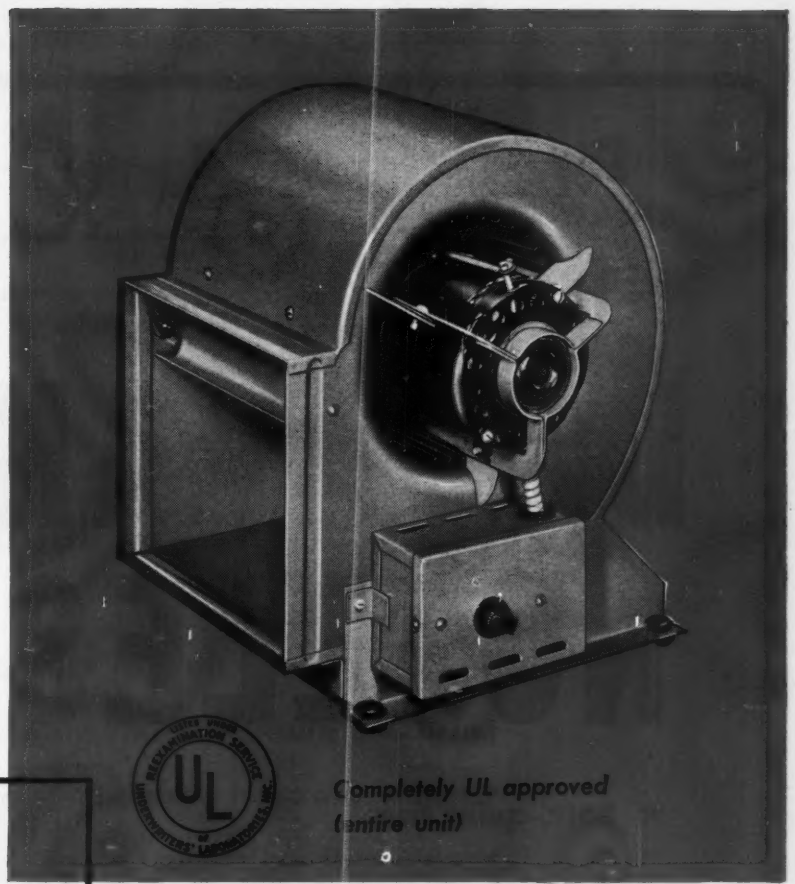
A7DD Direct Drive Double Inlet Blower

Small, compact, efficient and quiet

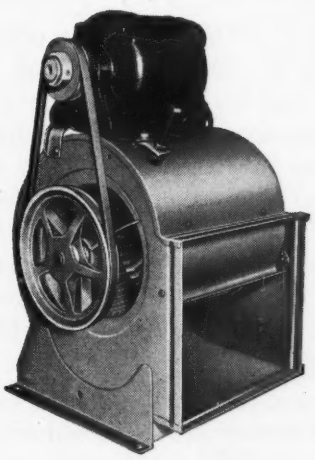
A 7½" Double Inlet Blower with motor built INTO the Unit!

The ALL NEW LAU A7-DD pictured here is the perfect unit for in-a-wall gas and oil furnaces. It is the one answer to manufacturers who build hi-boy, low-capacity units. It is the ONLY unit completely UL approved, covering the entire unit (also approvable in combination with furnace).

The A7-DD has fingertip adjustment for wide range 7-speed control. For furnaces to be rated at capacities from 44,000 to 76,000 b.t.u. per hour (bonnet) at 100° temperature rise—or capacities from 31,000 to 54,000 b.t.u. per hour (bonnet) at 70° temperature rise.



Completely UL approved (entire unit)



MEMBER NATIONAL WARM AIR HEATING INDOOR COMFORT AIR CONDITIONING ASSOCIATION

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Lau Series "A" blower assemblies

The all-time outstanding achievement in the blower field. Overall size is considerably smaller than formerly and many features are revolutionary —exclusive with Lau—and protected. Entire unit is die-formed, lending itself to mass production on precision-built equipment with reflected low costs. Has 1-pc. motor mounting, self-aligning bearing, new LAUsteel pulley wheel. Write for Catalog 602 giving complete dimensions and performance data.

THE LAU BLOWER COMPANY • DAYTON 7, OHIO

World's Largest Manufacturer of Furnace Blowers

Visit our booth No. 533—10th International Heating and Ventilating Exposition—Philadelphia, January 22 to 26.

Atlantic Coast Conference Asks Flexible oil Prices

FLEXIBLE PETROLEUM PRICES were asked by the Atlantic Coast Oil Conference, New York 17, N. Y., in a letter sent to Michael V. DiSalle, price stabilization director, on December 28. The Association reminded Mr. DiSalle that the Mexican Trade Agreement ends officially on December 31 and declared that increased tariff rates which will go into effect will result either in increased prices or a diminishing volume of imported petroleum.

The letter stated the prices for petroleum products were the direct result of the law of supply and demand and that while the Conference was not interested in high prices as such, it did want prices sufficiently flexible to insure sufficient quantity where and when needed.

High tanker rates, continued the letter, must be used in determining prices along the East Coast since military needs for tankers offer little encouragement for any possible rate reduction.

The plea was dispatched after President Truman issued a request for a voluntary price freeze on oil as of December 18. While the freeze is to be voluntary, the request carried the warning that if prices should go up then rigid controls with roll-backs would be instituted.

❖

Proved oil Reserves Increase constantly

DESPITE ever-increasing production and consumption of petroleum products, "Facts about Oil," a publication of the American Petroleum Institute, New York 20, N. Y., points out that since the early days of the industry known oil reserves have been growing constantly. As an example, in 1925 proved reserves were estimated to be 8.5 billion barrels. Crude production since then totalled 30.2 billion barrels, more than three times the estimated reserves, and yet at the end of 1949 reserves of crude oil had mounted to an all-time high of 24.6 billion barrels.

Proved reserves represent the amount of oil, natural gas liquids or gas estimated as recoverable by the production system in operation at a given time. They include only those which have been located and the extent measured and proved by drilling. During 1949 in addition to production nearly two billion barrels of oil, one-and-a-half billion barrels were added to proved reserves of liquid hydrocarbons. At the end of 1949 total proved reserves of liquid hydrocarbons, which include crude petroleum and natural gas liquids, aggregated 28.4 billion barrels, a 5.9% increase over 1948's reserves of 26.8 billion barrels.

Proved reserves of natural gas in the United States at the end of 1949 were estimated at 180 trillion cu. ft., an increase of 6.5 trillion ft. or 3.4% over the underground supply a year earlier. Since 1925, when reserves were about 23 trillion cu. ft., proved supplies of natural gas have increased eightfold.

For *Better Oil Burner Performance

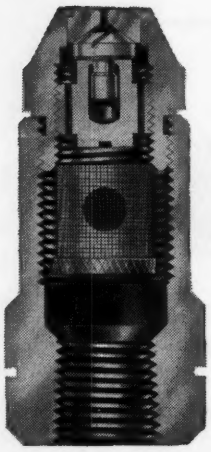
SPECIFY

DELAVAN NOZZLES

★ Soft, quiet fires.

★ Trouble-free service.

★ Maximum oil economy.



WRITE FOR CATALOG 147C

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"He says he stopped hibernating the minute he heard we were using Atlantic Triple-Refined Heating Oil"

Word's gotten around about triple-refining!

Because Atlantic Heating Oils are Triple-Refined, they insure maximum conversion to heat and cleaner burning. For customers that means a saving on fuel costs and repair bills. And you have lower service costs!

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Binghamton, N. Y.	Altoona, Pa.	Charlotte, N. C.
Buffalo, N. Y.	Greensburg, Pa.	Greensboro, N. C.
Elmira, N. Y.	Johnstown, Pa.	Wilmington, N. C.
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ATLANTIC

HEATING OILS

NPC adds Committee on Oil and Gas Availability

APPOINTMENT of a Committee on Oil and Gas Availability has been announced by Walter S. Hallanan, chairman, National Petroleum Council, Washington 6, D. C. L. F. McCollum, Continental Oil Co., Houston, is chairman of the Committee, which was named in response to a request from the Director, Oil and Gas Division, Department of the Interior, for a new study of present and probable future petroleum productive capacity and availability to the United States. The study will include gas as well as liquid petroleum, foreign as well as domestic sources.

The Council last January submitted to the Interior Department a study on "U. S. Crude Petroleum Productive Capacity," but the new analysis is deemed necessary "in view of the present situation and because of the significance of oil and gas to the national security and defense," stated the Government request.

Also named at the same time were three sub-committees, one on Domestic Oil and Gas Availability, Hines H. Baker, Humble Oil & Refining Co., Houston, chairman; another on Future Domestic Oil and Gas Availability, Max W. Ball, Washington, chairman, and the third on Foreign Petroleum Availability, John R. Suman, Standard Oil Co. (N. J.), chairman.

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VALUE TO
your oilburners
WITH

SUPER IGNITION TRANSFORMERS

★ 2 YR. GUARANTEE
★ PATENTED RADIO SHIELDING
★ MOISTURE-PROOFED IGNITION

Quality design and construction, field-proven performance and dependability, and top value plus lower cost combine to earn ever-increasing approval, acceptance, demand for SUPER Ignition Transformers.

As a single source of coordinated supply, SUPER is also at your service with:

- Transformers built to custom as well as standard specifications.
- An all-inclusive range of mounting bases.
- Replacement transformers for every service application.

Mf'd In Strict Accordance With UL Requirements
Also CSA Approved

Super
ELECTRIC PRODUCTS CORP.

46 OLIVER STREET
NEWARK, NEW JERSEY

Axeman-Anderson has Larger Anthratube Unit

A LARGER SIZE of its Anthratube, anthracite boiler unit, has been announced by Axeman-Anderson Co., Williamsport, Pa., aimed at heating large private dwellings, schools, apartment houses and similar installations. Operating on the same principle of the smaller Anthratubes introduced three years ago, the unit is offered with promises of savings as high as 50%. Operation is described as completely automatic, with coal moved automatically from the bin, burned and ashes shaken into a metal container or pit.

Operation features an induced draft fan, which shuts off when heat is no longer called for by the thermostat or operating control, and permits an off-balance plate to fall open, admit overfire air and allow immediate banking at low output.

Predicts rise in Oil Companies Earnings

A FINANCIAL SURVEY of thirty major oil companies, comprising about two-thirds of the petroleum industry in the United States, has been concluded by the Petroleum Dept., Chase National Bank. Results indicate that the combined earnings of the 30 companies for 1950 may amount to $1,666 million, an increase of 18.3% over the $1,408 million reported for 1949, with the third quarter of 1950 registering the greatest increase, showing estimated earnings rising 58.5% above those for the same period last year. The indicated totals for 1950 fall short of the peak earnings for 1948 which totaled $1,929 million.

The estimates are based on tax rates

You'll Do a Whale of a Business With This New DELCO-HEAT Burner!

Improved new Series "F" Models are real value-leader General Motors products!

Outstanding is the word for Delco-Heat's newest conversion oil burner—the Series "F." From combustion head to mounting base, it has been designed to give the home owner everything he wants in dependability and economical operation!

Everything that *you* want in a conversion oil burner is in the Series "F," too. The Delco-Heat Series "F" Burner is competitively priced . . . extremely easy to install and service . . . rugged and dependable.

. The Series "F" Burner is available in capacities of .75 to 2.75 gallons per hour. It is designed to burn No. 1 or No. 2 fuel oils—distillate or catalytic. In addition to the exclusive *Rigidframe* motor which powers the Series "F," other quality features include the Delco designed turbulator that cannot get out of adjustment . . . an internal gear-type pump that is positive acting and efficient . . . and a large capacity centrifugal type blower.

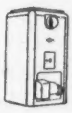
You can balance a coin on edge on the Delco RIGIDFRAME motor — while the burner is running!

Delco Appliance's exclusive *Rigidframe* construction insures against misalignment—the chief cause of vibration and noise—because the motor's stator laminations are locked in place by *welded struts*. Increased efficiency results from this type of construction, too—and longer life and greater dependability. Motor has standard NEMA flange mounting, and built-in overload protection.

It's easier to sell Delco-Heat products than it is to sell against them

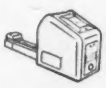
Delco-Heat has automatic home heating units for every heating need. The Delco-Heat line includes oil, gas and coal-fired units . . . for warm air, steam or hot water systems . . . for all popular-sized homes.

And because of his products, their prices, and the selling assistance he gets—the Delco-Heat Retail Distributor has unmatched opportunities. If you are interested in the profit possibilities of the Delco-Heat franchise, send coupon now!



Oil Conditionairs

Gas Conditionairs



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Conversion Gas Burners

Oil-fired Boilers

Also manufacturers of oil and gas-fired water heaters and electric water systems

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General Motors Corporation, Rochester 1, N.Y.
Please send me information about the Delco-Heat franchise.

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fueloil & oil heat

imposed by the Revenue Act of 1950, without providing for possible excess profits tax levies or for year-end adjustments.

The survey shows combined gross operating income of the 30 companies was maintained at a high level in 1950 and may reach $14,800 million, which would be 8.2% higher than in 1949. Operations of the oil industry also continued to expand. With demand for all products up 9.5% in 1950, crude oil production rose 5.1% and crude runs to stills increased by 6.9%.

Cash dividends declared in 1950 by the companies may aggregate $683 million, the survey reports, an all-time high and an increase of 21.1% over the previous year. The dividends represent 41% of available 1950 earnings. In addition, several companies declared stock dividends.

❖

Lawrence Knapp, for many years associated with York Oil Burner Co. and a former director of Oil-Heat Institute, has been appointed sales manager of the Oilburner Accessories Div., William Steinen Mfg. Co., Newark, N. J.

John Farrar has been appointed assistant sales manager, MOR-SUN Furnace Div., Morrison Steel Products, Inc., Buffalo, N. Y. He was promoted from the position of manufacturers representative for the Division, a position he has held for the past year. He previously had been sales manager, Crise Mfg. Co. and sales engineer, Eagle Picher Sales Co., following his discharge from the Navy in 1945. Mr. Farrar's duties now will be to assist Gene Brown, sales manager, in field contact work.

Fred K. Ladewig, who joined The Trane Co., LaCrosse, Wis., in 1946, has become manager of its Kansas City office. He replaces E. A. Cline, veteran of 30 years' service with the company, who has retired as manager to devote time to other duties within the office.

Arnold G. Shipp has been named assistant treasurer and general credit manager, Eastern Division, Tide Water Associated Oil Co., succeeding Samuel J. Kane, retired after 29 years with the company.

Mathew Keck was elected recently a vice president of Borg-Warner Corp., Chicago 4, Ill. He also will continue in his post of treasurer.

J. Robert Montgomery has become regional sales manager in Michigan, northern Indiana, northern Ohio and northeastern Illinois for The Coleman Co., Inc., Heating Eqpt. Div., Wichita, Kan. He joined Coleman in 1947 and will headquarter in Grand Rapids, Mich.

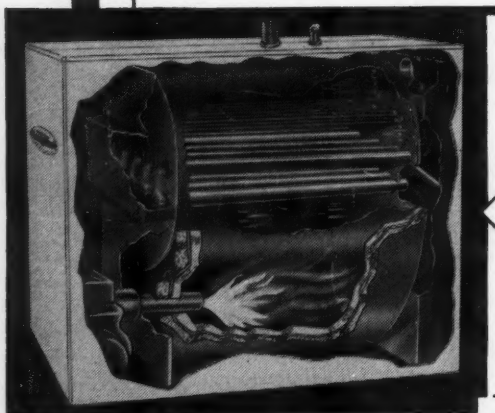
Lawrence E. Shea has joined the Pacific Branch sales staff, National Radiator Co., Johnstown, Pa., responsible for sales of the company's line in the San Francisco Bay area and northern California. Mr. Shea will have headquarters at 681 Market St., San Francisco.

Gibraltar

TOWERING ABOVE THEM ALL!

Specialists in sizes for Domestic Home Heating ONLY!

- TRIPLE ACTION DESIGN produces more heat with less fuel . . . Hot gases travel the entire length of the boiler 3 times to assure complete combustion.
- THICK STEEL SHELLS are of flange quality. Fire tubes, with spiral baffles, are of extra heavy gauge steel.
- RIGID INSPECTION guarantees the high quality of every Gibraltar boiler!



TYPE "R" . . . for high heating efficiency at moderate cost.

STANDARD . . . for *maximum* heating efficiency.

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The Big Name in Heating!

Type 201 Gravity Furnace—Steel. Pressure-atomizing burner. Four sizes—90,000, 135,000, 160,000, 180,000 Btu input. Also see types 101, 105, 202.

Type 202 Winter Air Conditioner—Steel. Type 201 plus forced-air circulating unit. Pressure-atomizing burner. Four sizes—100,000,150,000,180,000,225,000 Btu input.

Type 450 Conversion Burner—Pressure-atomizing type. Nozzle capacities from 1 to 5 g.p.h. Either 12" or 20" blast tube lengths.

Type 460 Conversion Burner—Pressure-atomizing type. Highly efficient. Nozzle capacities from 1 to 2 g.p.h.

Type 209 Winter Air Conditioner — Steel. Space-saving vertical cabinet design. Pressure-atomizing burner. Two sizes—100,000, 135,000 Btu input.

Type 50 Winter Air Conditioner—Steel. Pressure-atomizing burner. Four sizes — 100,000, 150,000, 200,000, and 225,000 Btu output.

FOR OIL

Type "FB" Winter Air Conditioner — Cast iron. Type F and blower-filter unit combined in one cabinet. Five sizes—108,700 to 234,000 Btu output.

Type "F" Gravity Furnace—Cast iron. Also in square casings. Firepots 18" to 30". Capacities from 73,000 to 177,000 Btu output.

Type "WG" Gravity Furnace — Cast iron. For small, compact homes. One size—42,000 Btu output at register.

Type "WR-72" Forced-air Furnace — Cast iron. Type WG forced-air circulating unit. One size—72,000 Btu output at bonnet.

Type 701 Gravity Furnace — Steel. Also available with square cabinet. Five sizes — 20", 22", 24", 27", 30".

Type 702 Winter Air Conditioner—Steel. Type 701 and blower-filter unit in one cabinet. Capacities from 109,000 to 210,000 Btu output.

FOR COAL

Type 901 Summer Air Conditioner — For installation with Type 105 Gas-fired, and Type 202 oil-fired winter air conditioners. By-pass damper. Two sizes—3 and 5 tons.

Type 900 Condensing Unit and Coil — for installation in standard forced-air heating systems. Two sizes 3 and 5 tons.

Blower-Filter Unit — In wide range of sizes for heating, ventilating, air-conditioning, and processing applications.

Furnace, Pipe, Duct, and Fittings—Complete line for both gravity and forced-air installations. Special patented fittings.

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FOR EVERY HOME — FOR ANY FUEL — FOR ANY TYPE OF HEAT ... Mueller Climatrol

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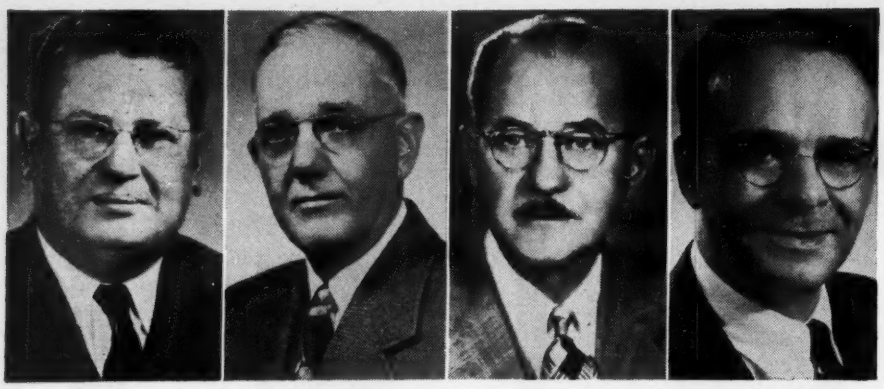


Franke Redrup Phillips Boeddener

Warm Air Group holds 37th annual Convention

ABOUT 400 MEMBERS and guests attended the 37th annual convention of the National Warm Air Heating & Air Conditioning Association, Cleveland, Ohio, held on December 5 and 6 at St. Louis, Mo. in the Hotel Statler. Morning and afternoon sessions were held on both days, opening with a welcome from the President, C. S. Franke. George E. Boeddener, managing director of the Association, presided at the session and introduced T. S. Rogers, Owens-Corning Fiberglas Corp., who discussed "Insulation as a Function of Heating and Air Conditioning." Other speakers were T. I. Byrd, chairman of the Task Group of the Warm Air Industry Emergency Committee and J. T. Anderson, Armco Steel Corp., on "Building forecast for 1951."

The afternoon session on December 5, over which W. D. Redrup, first vice president, presided, witnessed the nomination and election of officers and members of the board of trustees. R. J. Vandagriff, Laclede Gas Co., talked about the "Future and servicing of gas-heating equipment" and M. I. Levy, chairman, reported on the activities of the publicity and merchandising committee. R. C. Hienton, and R. V. Main, both Cleveland Electric Illuminating Co., told of latest developments in the company's winter air conditioning sales promotional program.

C. S. Franke, president, American Furnace Co., St. Louis, was named president; W. D. Redrup, chairman of the board, The Majestic Co., Huntington, Ind., was designated first vice-president and C. B. Phillips, vice president, Surface Combustion Corp., Toledo, became second vice-president. George Boeddener continues as managing director.

C. B. Phillips, second vice presi-

You Sell BOTH Markets

with ALDRICH

HEAT-PAK BOILER-BURNERS

Expand your market to 90% of new home construction with Aldrich. Sell more, with less inventory . . . cash in with oil units, cash in again with gas burners.

Mounting plates are similar; installation is fast and simple. And you can convert from one fuel to another without changing boiler set-up or performance.

7 makes 14

Aldrich Heat-Pak boilers come in 7 sizes, from 100,000 to 808,000 BTU/hr. With both oil and gas, you have 14 compact heating plants to sell everything from modern small homes to big commercial installations. Vertical-type, compact and efficient; shipped crated fully assembled, ready to set in place and connect.

Profit with ALDRICH — Get Details Today. Write or wire for Heat-Pak facts, full specifications.

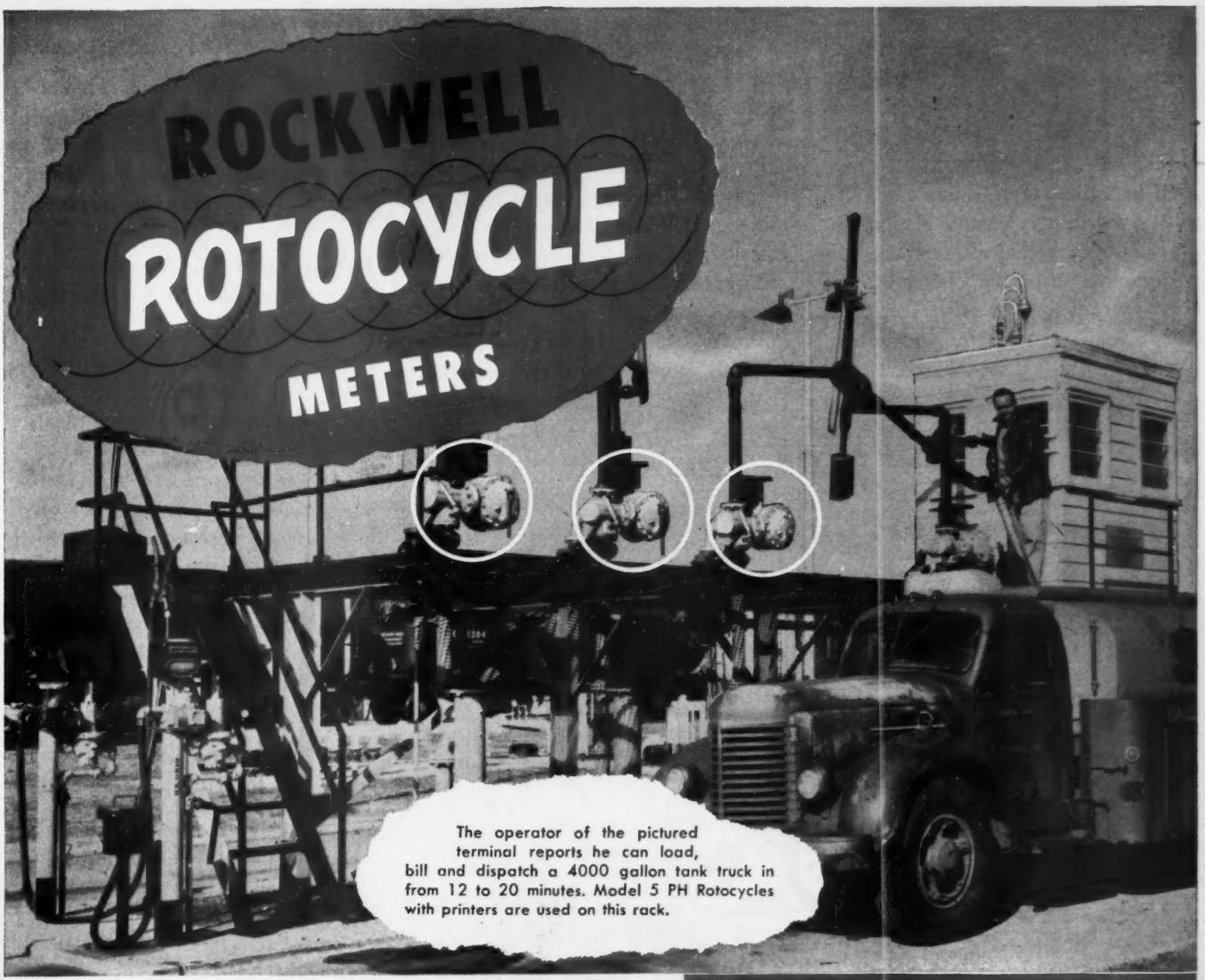
ALDRICH HEAT-PAK PRODUCTS

The ALDRICH Company

103 East Williams Street, Wyoming, Ill.

A Subsidiary of Breeze Corporations, Inc.

ANOTHER BREEZE MARK PRODUCT



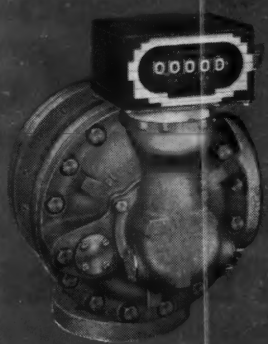
The operator of the pictured terminal reports he can load, bill and dispatch a 4000 gallon tank truck in from 12 to 20 minutes. Model 5 PH Rotocycles with printers are used on this rack.

Give You PROTECTION Where It COUNTS!

Precision and durability are the plus values you receive in Rotocycle meters. The time-proven, positive displacement design in which all working parts smoothly revolve is responsible for their accuracy and long life.

You also gain loading speed when you meter your bulk plant outlets with Rotocycles. Generous size internal passageways and a free running mechanism see to that.

Let Rotocycle meters unerringly police your gallonage. You'll find they quickly pay for themselves out of savings.



AT BULK PLANTS

Model B-5 Rotocycle with large numeral set-back register. Small numeral or printing register optional.

ON PIPE LINES

Model 2-PL pipe line meter shown with straight reading register and temperature compensator. Other style register available to suit every need.

ROCKWELL MANUFACTURING COMPANY
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New York Pittsburgh San Francisco Seattle Tulsa

dent, conducted the December 6 morning session, featured by H. Thompson, Thompson Heating Corp. and D. M. Schmidlin, Schmidlin Bros. Heating Co., who revealed that the "I.C.S.S. O.M.F." listed in the program translated into the truism "I can't sell sitting on my fanny!" At the session, G. A. Voorhees, technical secretary, reported on 1951 Indoor Comfort Conferences and reports were received from C. L. Sapp, chairman, Legislative Committee and C. W. Nessell, chairman, Field Investigation Committee.

The concluding session, Wednesday afternoon, December 6, was in charge of F. L. Meyer, member of the Board of Trustees. Heard were reports from Dean L. G. Miller, chairman, Technical Education Committee; F. L. Meyer, chairman, Research Advisory Committee and W. D. Redrup, chairman, Installation Codes Committee and Application Engineering Advisory Committee.

Progress reports were rendered on research activities by the Association at the University of Illinois.

Pacemaker for Profits . . . from Expert Heating Service

Making the most of your ability to do an expert tune-up job will pay you big dividends in gaining you competitive leadership and neighborhood recognition of your competence as a heating expert. The combustion-testing kit shown here contains precision-made quality instruments with which you can make fullest use of your know-how in making a fuel conservation survey, checking a burner for wornout parts and needed repairs, or running an efficiency test to close a replacement deal.

The kit contains the well-known FYRITE CO_2 Indicator, the versatile MZF Draft Gauge, the all-metal TEMPOINT Stack Thermometer and the sensationally new TRUE-SPOT Smoke Tester. Now, for the first time you can adjust an oil burner quickly and expertly for highest CO_2 without objectionable smoke . . . do away with guesswork, and "hit and miss" fumbling in adjusting for clean firing. The "Scale of Soot" which comes with the TRUE-SPOT tells you the limits of permissible smoke for various burners and types of heating systems. This amazingly simple method of oil burner adjustment is the greatest advance in combustion testing since the introduction of the FYRITE CO_2 Indicator.

Ask your Jobber for the FYRITE Utility Kit or write for Bulletin 777

BACHARACH INDUSTRIAL INSTRUMENT CO.

7000 BENNETT STREET · PITTSBURGH 8, PA.

Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

Pacific OHI Conference Scheduled for Portland

THE ANNUAL Pacific Coast OHI Conference is to be held this year in Portland, Ore., on March 2 and 3. Bill Alexander, manager, Oregon Heating Industries, Portland, hosts for the meeting, has announced that a Headquarters Room will be opened at the Multnomah Hotel on March 2, along with equipment displays.

The balance of the program is being formulated, for which speakers are being selected to furnish information on the serious problems that will confront the industry at that time.

Hanney re-elected President of NYOHA

AT THE REGULAR November membership meeting of the New York Oil Heating Association, Inc., Long Island City 1, N. Y., Thomas F. Hanney, Hanney Fuel Oil Co., was re-elected president for 1951. Also named were: Murray Lieblich, H. Lieblich & Co., vice president; Charles Kinsella, Wm. J. Kinsella Fuel Oil Corp., treasurer; Harold Layman, H & L Oil Burner & Heating Supply Corp., secretary and H. Wiener, Highland Oil Service, sergeant-at-arms. Philip H. Schepp continues as executive secretary.

Announce new Schedule of Indoor Comfort Conferences

THIRTY-THREE Indoor Comfort Conferences have been scheduled during the first six months of 1951 by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. As in the past, the Conferences will lead off with a short review of the basic principles for warm air heating and the methods of figuring heat losses. The greatest portion of class time will be devoted to a discussion of heating systems for low-cost houses, including the design and installation of winter air conditioning systems for basementless homes. The

NEW! H.C. Little Oil Wall Furnace

KEY TO ILLUSTRATION

1 —FURNACE measures 80" high, 20" deep and 30" wide.
2 —PARTITION wall is cut away to show how furnace is set in wall to extend out equally on each side (7" in the case of a 6" wall).
3 —FURRED OUT section of wall directly above furnace on both sides provides ample room (20" x 30") for the patent flue.
4 —PATENT FLUE, which comes down from above, without danger of contact with wood or other combustible material. (Or brick chimney constructed at side may be used).
5 —WARM AIR discharge grilles, 8" x 27", both sides of furnace.
6 —RADIANT PANEL, 12" x 49", one side only.
7 —COLD AIR intake grilles, 10" x 27", both sides of furnace.

Perfect for Small Homes Without Basements—Saves Valuable Floor Space—Automatically Lights Itself—Burns Low Cost Furnace Oil

IMPORTANT SALES FEATURES!

Fully automatic operation, electric ignition and controls (manual control also available) . . . patented H. C. Little burner uses low cost furnace oil . . . unit occupies minimum space, permits wall to wall carpeting . . . radiant panel one side and warm-air-discharge, cold-air-return grilles both sides assure an excellent job of heating . . . ample capacity for homes in colder climates . . . in excess of 60,000 BTU output per hour.

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Baltimore, Md.
Belmont, Mass.
Boise, Idaho
Chicago, Ill.
Columbus, Ga.
Detroit Lakes, Minn.
Des Moines, Iowa
Fayetteville, N. Car.
Newark, N. J.
Portland, Ore.
Prescott, Ariz.
Reno, Nev.
Salt Lake City, Utah
Seattle, Wash.
St. Louis, Mo.
St. Petersburg, Fla.

fuel oil & oil heat

proper location of registers and return air intakes also will be considered.

Guy A. Voorhees, technical secretary, who will continue as instructor during the 1951 schedule, has revised the instructional material to bring it up-to-date. Of special interest will be a new short form for estimating jobs, described by Mr. Voorhees, as a shorter, easier and faster method, while retaining accuracy and based on the manuals published by the Association.

The 1951 schedule of Indoor Comfort Conferences, with the names of individual chairmen, follows:

January 11 and 12, Indianapolis, Ind.; Cornelius Helwig, Tanner & Co.

January 18 and 19, Peoria, Ill.; Charles Raper, The Meyer Furnace Co.

January 22 and 23, South Bend, Ind.; Dick Young, Young Heating Supply, Inc.

January 29 and 30, Youngstown, Ohio; J. H. Baum, J. H. Baum Heating Co.

February 1 and 2, Columbus, Ohio; Newt T. Hess, Vorys Bros., Inc.

February 5 and 6, Memphis, Tenn.; J. D. Holden, A-T-M Gas Equipment Co.

February 9 and 10, Birmingham, Ala.; George F. Wheelock, George F. Wheelock Co.

February 13 and 14, Atlanta, Ga.; Charles M. Farrar, Warm Air Heating Contractors Association of Atlanta.

February 16 and 17, Knoxville, Tenn.; W. A. Simpson, Bondurant Bros.

February 19 and 20, Charlotte, N. C;. Frank Mayhew, Metal Service Corp.

February 23 and 24, Huntington, W. Va.; Claude A. Conley.

March 5 and 6, Houston, Texas; D. M. Mills, F. J. Evans Engineering.

March 8 and 9, Oklahoma City, Okla.; Louis Loeffler, Jr., Federal Supply Co.

March 12 and 13, Tulsa, Okla.; F. M. Thomas, Thomas Engineering Co.

March 19 and 20, Kansas City, Mo.; W. R. Cameron, Missouri-Kansas Supply Co.

March 22 and 23, Salina, Kan.; Jim McKim, The Salina Supply Co.

March 30 and 31, Boston, Mass.; T. F. Donahue, Jr., Herrick Co., South Boston.

April 2 and 3, New Haven, Conn.; B. L. Fay, The Norwalk Airconditioning Corp., Norwalk, Conn.

April 5 and 6, Long Island, N. Y.; C. W. Rand, Home Crafts Co., Floral Park, N. Y.

April 9 and 10, Philadelphia, Pa.; John E. Phillips, Stelwagon Mfg. Co.

April 13 and 14, Baltimore, Md.; W. E. Kingswell, W. E. Kingswell, Inc., Washington, D. C.

April 17 and 18, Utica, N. Y.; I. C. Barber, International Heater Co.

April 26 and 27, Rockford, Ill.; E. D. Mott, Mott Bros.

April 30 and May 1, Milwaukee, Wis.; Fred J. Engler, Milwaukee Stove & Furnace Repair Co.

May 3 and 4, Minneapolis, Minn.; Stuart A. Smith, Waterman-Waterbury Co.

May 7 and 8, Billings, Mont.; Harry Hunt, Midland Implement Co.

May 11 and 12, Omaha, Neb.; L. C. Norton, A. Y. McDonald Mfg. Co.

May 14 and 15, Des Moines, Ia.; John C. Rehmann, Keith Furnace Co.

The Bethlehem Crusade-a-therm outperforms them all!

...THE LAST WORD IN HOME HEATING COMFORT AND CONVENIENCE!

The Bethlehem CRUSADE-A-THERM is a compact, highly efficient, completely automatic package unit. From it you get quiet, clean heat and an ample, year-round supply of domestic hot water. The Bethlehem CRUSADE-A-THERM is designed and built to give lifetime service at a low, low cost!

"C-liminator" — a big sales feature!

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.

"We Give Our Customers the Best...

KELLER Engineering COMPANY
465 Valley Brook Ave. Phone Rutherford 9-0080
LYNDHURST, NEW JERSEY

October 25, 1950

Rochester Manufacturing Company
Rochester 10, N. Y.

Dear Mr. Skner:

We have used the Rochester Dual-Dial Oil Tank gauges exclusively for the past twenty years. While the initial cost may have been a little higher than others, we have found them to be more dependable and have had no difficulty with them.

This being a long-pull business, dependability and satisfaction to the customer has always been our aim. When you keep the customer cost down and keep him happy at the same time, the dealer saves on fewer service calls.

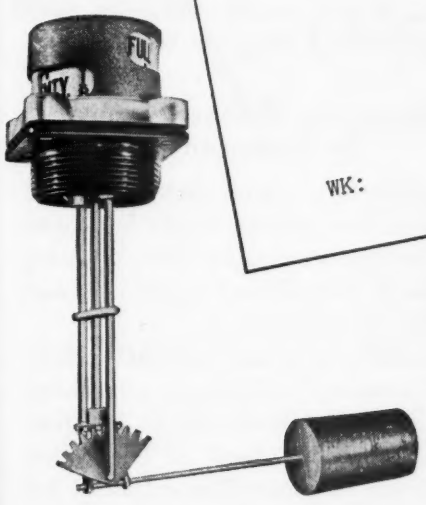
Very truly yours,
KELLER ENGINEERING COMPANY

W. Keller

W. KELLER, President

WK:

Oil Burners — Heating — Fuel Oil



Rochester Gauges"

The dependability and positive leak-proof feature of Rochester "Dual-Dial" gauges are two reasons why oil burner dealers like Keller Engineering Company rely on them. The solid die-cast head cannot leak oil or vent smelly fumes *even under pressure!* Customers remain satisfied. Needless and costly service calls are eliminated. The large figures on the magnetically actuated "Dual-Dial" can be read at a glance from both front and back. There is never any doubt about oil level.

Underwriters' listed for over 25 years, Rochester Gauges are stocked for 275 gallon oil burner storage tanks in the following depths— 22", 24", 26", 27", 42", 44", and 47"; 1½" and 2" pipe thread connections. Special lengths to order.

INCREASE PROFITS THIS WINTER! Here is an additional source of revenue for those slow winter months. Service unbalanced heating systems easily, quickly and accurately with a Rochester CAC (Circulation Air Control) Kit. Use it to build customer good-will and increase your own profit.

This inexpensive Kit contains three accurately calibrated Rochester Thermometers with self-supported tapered shafts. You can take simultaneous readings and since no tools are required, your hands are free to make necessary adjustments.

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Rochester
GUARANTEED ACCURACY

MANUFACTURING CO., INC.
19 Rockwood St., Rochester 10, N. Y.

May 21 and 22, Evansville, Ind.; Roger K. Becker, Ohio Valley Hardware & Roofing Co.

May 24 and 25, Fort Wayne, Ind.; Cleo. G. Fox, Fort Wayne Htg. & Sheet Metal Contractors Association.

May 28 and 29, Detroit, Mich.; E. B. Root, Superior Safety Furnace Pipe Co.

May 31 and June 1, Saginaw, Mich.; B. L. Lange, Wm. A. Lange & Son.

June 4 and 5, Kalamazoo, Mich.; Glen W. Rynbrand, Glen W. Rynbrand Co.

Registration fee for the two-day conferences is $12.50 per student, which includes tuition and all manuals and worksheets each will receive for classroom instruction.

Fred Heaney honored At M.O.H.A. Meeting

THE DECEMBER 12 regular monthly meeting of the Massachusetts Oil Heating Association, Inc., Boston, Mass., held at the Hampton Court Hotel, was "Fred Heaney Night." The celebration was arranged to honor the former president of the group and more recently its secretary-treasurer, who has moved to New York to manage a fuel-oil and oilburner dealership there. For many years Fred has been active in industry and association affairs, giving unstintingly of his time and effort for M.O.H.A. and the Oil Heat Institute of New England.

A special steak dinner, with entertainment, featured the evening. From a fund of voluntary contributions a token of appreciation was purchased for Fred, who acknowledged the presentation.

Fred had been with Buckley & Scott Utilities, Watertown, Mass. About a year ago John W. Scott, of the company, participated in the purchase of Skaggs & Walsh, Inc., Long Island City, N. Y., a Timken dealership and retailer of fueloil, and Fred recently was named general manager and vice president of Skaggs & Walsh.

Committee Members named By Wisconsin Association

COMMITTEE APPOINTMENTS for 1951 have been released by the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis. Chairman and personnel on 11 committees are:

Advertising: Lawrence O. Woehrer, chairman; John Kepmeier, John Hume, Grover C. Fillbach and D. J. Parker.

Advertising Fund: J. H. Shellenberger, chairman; Howard Elder, Julius Seiy, Joseph Hunt, Walter Schroeder, Lawrence Woehrer and George Hochstein.

Finance: Lester Knack, chairman; John Weiler, Charles Stoffel, Ernest Berger, and John Eagle.

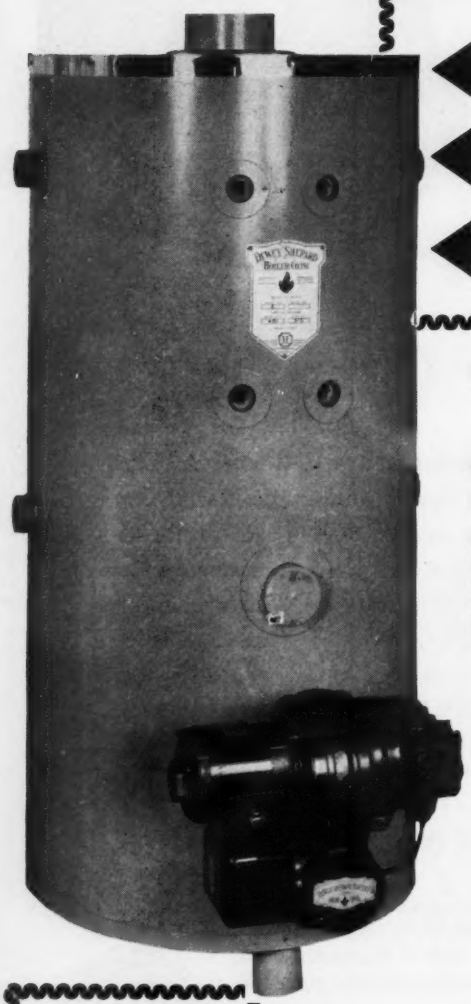
Golf Outing: Ed Tangney, chairman; Lester Hoppe, John Bruzina, LaVern Schaetzel and J. L. Savage.

Grievance: Richard Johnson, chairman; C. N. Smith, Ed Benson, Leo Schneider and Ed Tangney.

Home Show: Harry Bringolf, chairman; Elmer Kaul, G. G. Cronau, Fred Pfister and Lawrence Woehrer.

Legislative: T. N. Moore, Jr., chairman; Norbert Herrick, William P. Liesen, Alfred Hegeman and Karl O. Werwath.

Membership: Albert Hegeman, chairman; Kenneth Kern, George Gross, Harold J. Goreschel, William



Ready to Install
DEWEY-SHEPARD
OIL OR GAS
BOILERS

YOU GET 80% OR MORE HEAT ABSORPTION WITH
the Tube within a Tube

This "Tube within a Tube" action results in pre-heating the incoming cold water before it comes in contact with the metal surfaces to which radiant heat is being applied. By this application you offer your customers many advantages such as:

- LESS FUEL USED
- LOWER INSTALLATION COST
- NO LIME—NO SCALE
- 20% LESS HEAT LOSS THROUGH THE STACK
- NO EXPANSION, CONTRACTION OR CONDENSATION
- CLEANEST HEAT POSSIBLE
- SUFFICIENT HOT WATER AT ALL TIMES

Easy application to all hot water systems.

- TWO PIPE
- ONE PIPE
- CONVECTOR
- PANEL & RADIANT
- SUMMER-WINTER HOOK-UP

In the "Tube within a Tube" boiler there is one square foot of heating surface for every gallon of water. This method transfers every possible unit of heat to the water and results in EFFICIENT AND ECONOMICAL OPERATION.

Write Today — Get descriptive literature, prices and other information.

DEWEY-SHEPARD
BOILER COMPANY, INC.
1311 NO. CAPITOL AVENUE • INDIANAPOLIS 4, INDIANA

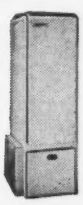
FOLLOW THE LINE OF LEAST RESISTANCE . . . .

FOLLOW THE Luxaire® LINE!

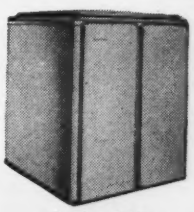
for ANY Fuel
GAS • OIL • COAL

with CAST IRON or STEEL Heating Elements

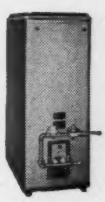
Series A Gas-Fired Steel Air Conditioning Unit.



Series H Gas-Fired, Steel Utility Air Conditioning Unit.

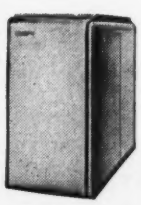


Series CA Gas-Fired Air Conditioning Unit, Cast Iron heating element.



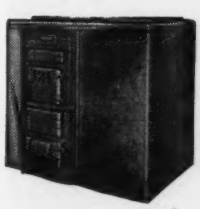
Series G Gas-Fired Gravity Furnace Available with Steel or Cast Iron Heating Element.

No. HC-95-E Gas Counterflow Unit, for Slab Floor, Perimeter Heating.

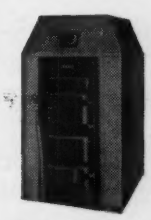


Series O Gun, Oil-Fired Air Conditioning Unit. Steel heating element.

No. VHC-75-E Oil Counterflow Unit, for Slab Floor, Perimeter Heating.



Series AC-F Coal-Fired Air Conditioning Unit. Steel Heating Element.



Series No. 700 Coal-Fired Gravity Furnace. Steel heating element.

Series C Coal-Fired, Cast Iron Furnace.

When a homeowner wants a gas-fired, steel, gravity furnace, don't try to sell him something different. Sell him a Luxaire unit of the exact type that Mr. Homeowner prefers!

When an architect wants a gas-fired, cast iron, air conditioning unit, don't try to sell him something different. Sell him a Luxaire unit of the exact type that Mr. Architect prefers.

When a builder wants oil-fired Counterflow Units for Perimeter heating installations in his basementless houses, don't try to sell him something different. Sell him a Luxaire unit of the exact type that Mr. Builder prefers.

If buyers want Cast Iron or Steel, coal-fired, gravity furnaces or air conditioning units—gun or vaporizing oil fired units—furnaces which can be converted from oil to gas, or vice versa, at any time, DON'T set up buying resistance by trying to talk them into buying something which you happen to have, BUT which they do not want!

Follow the Line of Least Resistance! Sell the complete Luxaire Line! You will have exactly the type and kind of heating unit that furnace buyers want to purchase.

THE Luxaire® C. A. OLSEN MANUFACTURING COMPANY • • ELYRIA, OHIO

HEATING & AIR CONDITIONING UNITS

fuel oil = oil heat

Pipkorn, Emery McNeil, Walter Wingrove and Lester Falk.

Attendance: John Eagle, chairman; Clarence Gorder, Fred Engler, Nick D'Amico, A. J. Kornitz and William Morgan.

Program—Meeting Place and Special Events: Ed Benson and Alfred Hegeman, co-chairmen; Lester Hoppe, J. L. Savage, Charles Kettinger, Bruce O'Connor, Charles Randolph and John Westmont.

Historian: Alfred Hegeman.

In addition Lester Hoppe was named chairman of the Arrangements and Entertainment committee for the Annual Dinner Rally on February 9; William Hatch will be in charge of the Reception and Distinguished Guests and John Weiler will supervise Tickets and Reservations.

Oregon Group surveys Accounts Receivable

CREDIT ANALYSES of 4 statewide and 11 Portland members, based on accounts receivable as of October 31, have been conducted by the Oregon Heating Industries, Portland 4, Ore. The outstanding accounts on October 31 totaled 100% in the survey, with the accounts billed in October, September, August, July, June and previously also totaling 100%.

The association reports that this latest analysis shows a considerable improvement over the August 31 study. The next will be based on conditions as they exist on January 31.

Averages for the Portland dealers ranged from 64.12% of October accounts outstanding on October 31; 13.76% of September; 6.46% of August; 5.75% of July and 9.91% of June and previous months. Acounts under 60 days old were 77.88% of the total, with 22.12% more than 60 days old. Averages for the statewide dealers who reported showed 82.22% of October accounts unpaid on October 31; 6.01% of September; 2.95% of August; 1.00% of July and 7.81% of June and previous months. The study showed 88.23% of these accounts to be under 60 days old and 11.77% older than 60 days.

The grand total average for all dealers shows:

October	73.17%
September	9.89
August	4.71
July	3.37
June and previous	8.86
Under 60 days	83.06 (average)
Over 60 days	16.94 (average)

I-B-R begins new Schedule For Schools of Modern Heating

A NEW SCHUDULE of 1951 Schools of Modern Heating has been started by the Institute of Boiler and Radiator Manufacturers, New York 17, N. Y. First sessions were held from January 9 to 11 in the Bronx, N. Y. at the Bronx Wintergarden, followed by classes from January 16 to 18 for dealers near Garden City, N. Y. at the Stewart Manor Country Club and in Newark, N. J. at the Public Service Auditorium from January 23 to 25.

Other Schools for which locations have been designated are to be held in Wilmington, Del. from January 30 to February 1 at the Monaghan Columbus Club; Philadelphia, Pa. from February 6 to 8 at the Broadwood Hotel and at Providence, R. I., from Febru-

There is only ONE

TRADE MARK REGISTERED

Draft-O-Stat

BAROMETRIC DRAFT CONTROL

AND HOTSTREAM MAKES IT!

OVER ONE MILLION

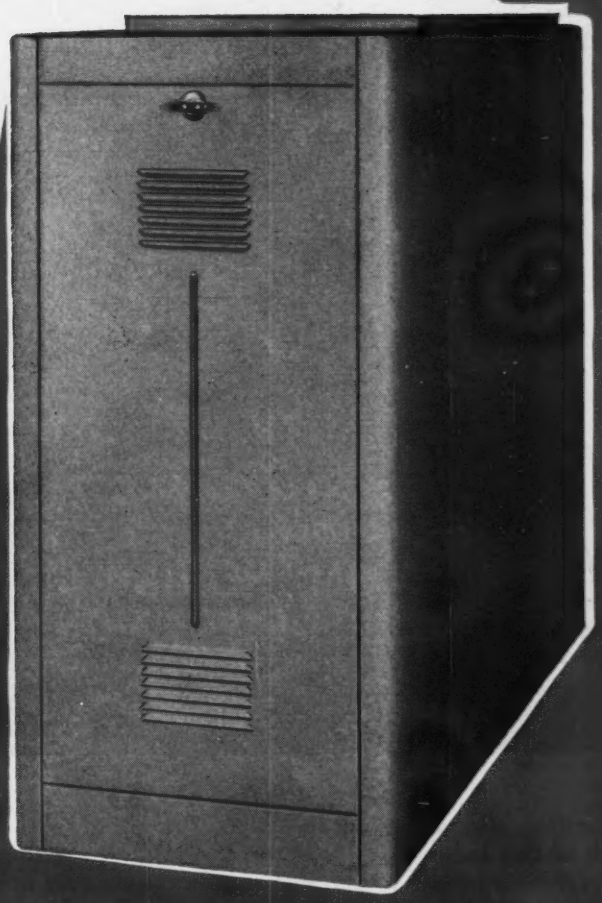
SUCCESSFUL INSTALLATIONS

New Model "B" (illustrated) now available in 6, 7, 8, 9, 10 and 12 inch sizes. Write for Bulletin.

THE HOTSTREAM HEATER CO.

6925 QUINCY AVENUE • CLEVELAND 4, OHIO

MAYFLOWER for 1951



GAS OIL

COAL

In Design . .

In Construction . .

In Performance . .

The finest warm air furnaces we have ever built.

MAYFLOWER AIR-CONDITIONERS, INC.—ST. PAUL 6, MINNESOTA

LOOK HERE for Answers to Tomorrow's NEW Problems

Now that priorities, allocations, cut-backs, and other essential restrictions have returned to the industrial scene, the heating, ventilating, and air-conditioning picture is certain to undergo significant changes in the days to come—to pose new problems for wholesalers, dealers, distributors, and sales and service engineers. That is why attendance at this foremost Exposition of its kind—largest ever staged—takes on greater importance and timeliness than ever. The wealth of first-hand information available here on latest developments, newest trends, available equipment and supplies, and sources of supply, may prove to be an invaluable business asset for the uncertain times ahead.

Over 300 exhibitors with their technical representatives will be on hand to show and tell what the future offers for heating, ventilating and air conditioning in all types of commercial and public buildings, industrial plants, and homes. In no other way can so many helpful ideas and valuable contacts be obtained, and so much equipment seen and compared in so little time . . . all so essential to solving tomorrow's new problems.

So plan now to take advantage of this big opportunity. Note the dates.

Auspices of the American Society of Heating & Ventilating Engineers

Management International Exposition Company

ary 27 to March 1 at the Crown Hotel.

The following schools have been announced, with locations still to be chosen: February 13 to 15, Reading, Pa.; March 6 to 8, Boston, Mass.; March 13 to 15, Baltimore, Md.; March 20 to 22, Raleigh, N. C.; March 27 to 29, Charlotte, N. C. and April 3 to 5, Atlanta, Ga.

Full details are available from the Institute at 60 East 42nd St., New York.

New York Old Timers meet And hold Dinner-Dance

A REGULAR membership meeting of the Oil Heat Old Timers, Inc., Long Island City 1, N. Y., was held on December 7 at Henry's Bayview Inn, Bronx, N. Y. This was a new location for the meetings, with the explanation that it was the first effort to rotate the meeting sites so that each member in all areas of the metropolitan area will have the chance to attend an occasional meeting in his own neighborhood.

On December 16 the club sponsored an informal dinner-dance at the same place, open to members and their guests. Dan Bierman, chairman, Entertainment Committee, was assisted by Bill Niccolls, Herb Helman, Harvey Birck and Hugh Stephenson, members of a Dinner-Dance Committee, in making arrangements for the affair, which provided door prizes and posies for the ladies.

OHI of New England Starts service Schools

A SERIES OF Technicians' Training Schools for oilburner servicemen has been commenced by Oil Heat Institute of New England, Boston, Mass. This year's series is designated Course F and is to be held in the Providence, Brockton and Boston areas.

Classes commenced on January 8 in Providence and are scheduled to continue on January 15, 22 and 29, February 5, 12 and 26 and March 5, 19 and 26. In Brockton the first class was held on January 9, with others to follow on January 16, 23 and 30, February 6, 13 and 27 and March 6, 20 and 27.

To facilitate attendance and cut down travel time for those wishing to attend, classes in the Boston area will be held at three locations, Malden,

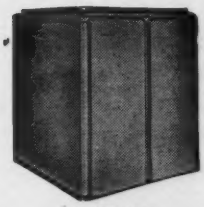
BUILD FOR YOUR FUTURE...

More SALES Bigger PROFITS

You'll find selling MONCRIEF easier than competing against it

There's a MONCRIEF for ANY Heating Requirement

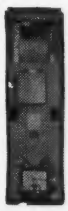
Series L Gas-Fired Steel Air Conditioning Unit.



No. CL-200 Gas Fired Air Conditioning Unit with cast iron Heating Element.

Series W Gas-Fired Gravity Furnace Available with Steel or Cast Iron heating element.

Series U Gas-Fired, Steel Utility Air Conditioning Unit.

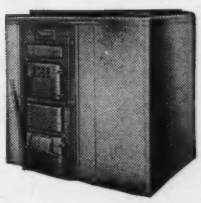


No. UC-95-E Gas, Counterflow Unit, for Floor Slab, Perimeter heating.

Series P Gun, Oil-Fired Air Conditioning Unit, Steel heating element.

No. VUC-75-E Oil, Counterflow Unit, for Floor Slab, Perimeter heating.

Series No. 700 Coal-Fired Gravity Furnace.



Series AC-F Coal-Fired, Steel Air-Conditioning Unit.

Series C Coal-Fired, Cast Iron, Gravity Furnace.

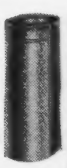
MONCRIEF SUREFIT CARTON-PACKED FITTINGS

EASIER TO SELL... *Save Time*
EASIER TO HANDLE... *Save Space*
EASIER TO STOCK... *Save Money*

BUY 'EM BY THE CARTON

also

MONCRIEF FURNACE PIPE ELBOWS and ANGLES...



Bundled Furnace Pipe 3" to 24"
Bundled Elbows 3" to 12"
Bundled Angles 5" to 12"

BUY 'EM BY THE BUNDLE

When you make your decision for '51, you can plan the future for '61, for '71 and thereafter. You can plan wisely too—because with Moncrief you can rely on a top-notch line of profit-making equipment that fits the needs for practically any home heating installation.

Moncrief builds a most complete, versatile line. Gas Fired Furnaces and Air Conditioning Units with either steel or cast iron heating elements . . . Oil Fired Units with Gun type and Pressure Vaporizing Burners . . . Coal Fired Gravity Furnaces and Air Conditioning Units with either Cast Iron or Steel heating elements . . . Gas or Oil fired Counterflow Units for slab floor, Perimeter heating installations.

Also—many Moncrief models are built and approved for either gas or oil firing. Equal heating efficiency is obtained with either fuel.

Your Moncrief jobber will be happy to show you how Moncrief can be your profit-making line for '51-'61-'71.

THE HENRY FURNACE COMPANY • Medina, Ohio

HEATING AND AIR CONDITIONING UNITS — MONCRIEF SINCE 1895 — FURNACE PIPE AND FITTINGS

fuel oil & oil heat

Watertown and Dorchester. The first was held at Malden on January 10, to be followed at the same location by classes on January 17, 24 and 31, February 7, 14 and 28 and March 7, 21 and 28. In Watertown January 11 marked the opening of the series, with other sessions to be held on January 18 and 25, February 1, 8 and 15 and March 1, 8, 22 and 29. The group of classes in Dorchester got under way on January 12 and will continue on January 19 and 26, February 2, 9 and 16 and March 9, 23 and 30.

The classes, which are primarily for training Institute members and their employers, also accepts nonmembers if room is available. At each of the 10 three hour sessions constituting a complete course a different make of burner is the subject of discussion.

Petroleum Association Plans Minneapolis Meeting

AN ANNOUNCEMENT by H. F. Horning, secretary, Northwest Petroleum Association, Minneapolis 2, Minn., reveals the group's annual convention will be held January 25 and 26 at the Nicollet Hotel, Minneapolis. To care for an expected overflow, arrangements have been made with the Dyckman Hotel to set aside a block of rooms for those who wish to attend.

A program different from any previous session has been promised, with the agenda being formulated to permit last minute changes to include topics or speakers on conditions that will affect operations.

Washington Dealers Plan 1951 Advertising

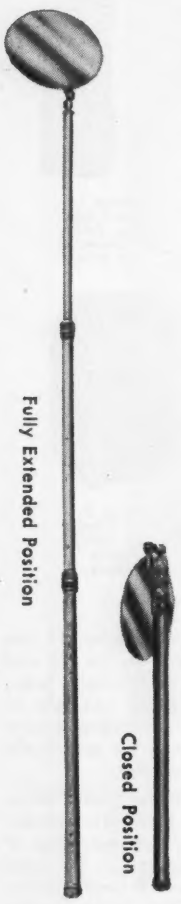
OIL-HEAT INSTITUTE of Greater Washington, Washington, D. C., is formulating plans for a proposed 1951 advertising program, funds for which are to be raised from contributions from members and major suppliers in the area. The program is budgeted at $21,440, with cooperating members assessed at $55 per fueloil truck owned; major suppliers contributing 1/100 of a cent per gallon.

Last year's program, which started in April and whose final newspaper advertisement appeared on December 6, operated on a budget of $13,740, $11,440 of which was contributed by 29 out of 30 members, the balance coming from four of the major suppliers.

A. Graham Sheids, managing director, explains the objective of the program as aimed at not only preserving the present market from the inroads of natural gas competition, but to present facts to the public to induce them to insist to builders and architects on the installation of oilheating equipment in new construction. "Oil heat costs less, in any size home" is to be the theme of the advertising. Newspapers again will carry the major portion of advertising, with builders and architects to be contacted by direct mail or other means and the use of some radio and television spots a possibility.

Baltimore OHI holds Election; general Meeting

AT ITS NOVEMBER 21 meeting the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., re-elected J. Hollis B. Albert, Operators Heat, Inc., as president for another year and named J. A. Amer, vice president; L. C. McComas, treasurer and Mel J. Burnham,



SERVICE MEN

√ Why burn your hands?
√ Why lose mirrors in the firebox?
√ Why buy two complete mirrors?

when you can buy a

STEINEN

with

- A collapsible handle adjustable from 14" to 33".
- An extra oblong mirror easily replaceable and interchangeable.
- Aluminum tubing with positive lock bushings.

It Telescopes!

Territories still available for jobber representatives. Write for full details.

Investigate the Steinen Mirror

A single unit—a real time saver—no sections to add. Truly designed for the convenience of the burner installation and service man.

STEINEN

WILLIAM STEINEN MFG. CO.
43 BRUEN STREET • NEWARK 5, N. J.

Oil Burner Nozzles, Adapters, Nozzle and Tool Kits
Air Bands, Bushings, Stampings, Screw Machine Products

Some people say it's too hard to buy FASCO Motors!

It does take some time and a lot of care to specify a motor that's right. But when it's done, *you're* way ahead . . . with a product that's suitable . . . with a motor that's *right.*

To get the best motor for a job, you look for 3 things:

1. **A good motor . . .** designed right, carefully made of the right materials, and *tested*—so that its performance and life-span are known facts.

2. **A price that's right . . .** as a component part, the motor must be available at a cost that allows your product to compete in the market.

3. **A motor that's fitted to its job . . .** whether your most important need is *dependability, efficiency,* or *durability*—or the best possible combination of all three—the motor must be carefully specified, tested in actual use, and proved.

That's all true for anybody, any time.

From here on, we're talking about FASCO. We make small motors (1/500 to 1/8 h.p.). Most of them are shaded pole induction motors—in 2-pole, 4-pole, and 6-pole speeds.

For a number of applications, shaded pole motors are the very best answer. But they can be easily misapplied (and often are).

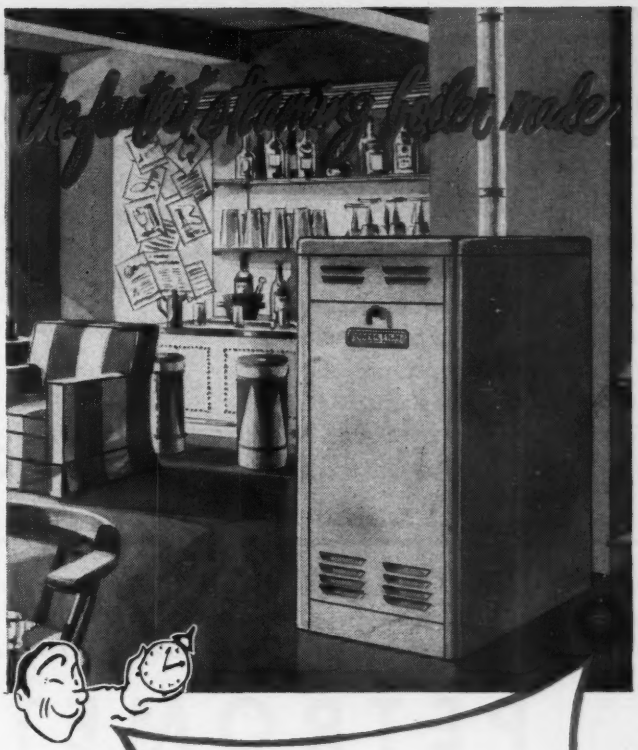
We make good shaded pole motors—and believe they're priced right. The *added* value you get from FASCO is very careful application of a motor to your job.

If you have a product that needs the right motor, we'll be glad to study the problem with you—in your plant or laboratory.

FASCO INDUSTRIES, INC.

Rochester 2, N. Y.

10th International Heating & Ventilating Exposition
Commercial Museum, Philadelphia—Jan. 22-26 (Booth 334)



Koven WATERFILM

for Quick economical heat

The soundest boiler investment your customer can make is KOVEN WATERFILM. In its exclusive zig-zag water tube only a ¾" film of water has to boil to produce steam—thus heat starts rising long before the main body of water in the tank is even warm. This means WATERFILM gives quick, dependable heat at a great saving in fuel. Maintaining even temperature in every room and supplying plenty of hot water at all times, WATERFILM is widely recommended by architects and builders. WATERFILM Boilers are beautifully jacketed in models and sizes for small homes, apartment houses and industrial plants. For larger installations, the Sectional Series can be taken through a 2-ft. door. 500-17, 850 E.D.R. NATIONALLY ADVERTISED. Write for free literature and newspaper mats.

- Patented Construction
- Quick-Steaming
- Retards Accumulation of Soot
- Economical
- Rugged Construction
- Easily Replaced

THE HEART OF THE WATERFILM BOILER IS THE ZIG-ZAG SHAPED WATER TUBE

EVEN ROOM TEMPERATURE THROUGHOUT THE HOUSE

WATERFILM BOILERS, Inc.
A Division of L. O. Koven & Bro., Inc.
154 Ogden Avenue, Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.

FOR AUTOMATIC FIRING WITH OIL, STOKER OR GAS

secretary. Charles H. Hoffberger, Fred W. Gross, J. C. Knight and J. A. Parker were elected to the board of directors for three year terms.

Highlighting the meeting was a discussion of the proposed new Baltimore building code. Rules and regulations governing chimney construction and oilburner installation in the code have been formulated to provide more uniformity and high operating efficiencies in domestic heating plants. Mr. Paul L. Holland, director of Public Works, and Messrs. Cohen and Russell of the Bureau of Building Inspection, Baltimore, attended the meeting.

At the meeting the association went on record as favoring total exemption from sales tax for all fuels, on the premise that fuel is a necessity and should not be taxed.

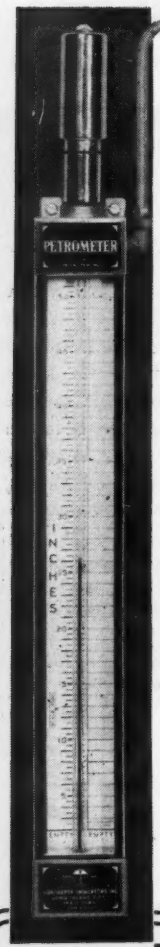
A general meeting of the group took place at the Hotel Stafford on December 19. Col. Arthur L. Shreve delivered a timely address on "How will military needs for manpower affect the oil and burner industry?"

Make Every Installation

Competition-Proof . . . Install a

PETROMETER

Tank Gauge



OUTSTANDING — HERE'S WHY:

- **METAL AERATOR:** 75% better in performance and appearance than the troublesome outmoded rubber bulb.
- **DIRECT READING DUAL SCALES:** Constant reading in inches and gallons. Always ready. Easy to read.
- **FLOOD PROOF:** Positive gauge protection when tank is overfilled. Automatic Red "X" fluid check.
- **NO TOOLS NEEDED** to adjust or replace scales when tanks are not level.
- **SCALE READINGS:** Adjustable to take care of tank pitch.
- **WARNING SIGNAL:** Red transparent plastic strip may be moved upward or downward. Warns when to re-order.
- **NEW LOOK:** Pleasingly compact—sturdy—dependable.
- **REMOTE READING:** The New Petrometer is simple to install and maintain. The gauge may be located any place above or below the level of the tank; up to ONE QUARTER MILE distant from the tank.
- **FLEXIBLE SCALES:** May be removed or adjusted easily. Gallon conversion figures may be typed on scale.

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LIQUIDEPTH INDICATORS INC.

FIVE STAR SQUARE

LONG ISLAND CITY 1, NEW YORK

Indiana Sheet Metal Group To hold annual Convention

THE 33D MEETING of the Sheet Metal and Warm Air Heating Contractors Association of Indiana, Inc., will be held February 1 and 2 at the Hotel Severin, Indianapolis, Ind. The annual committee rally was held on November 30, at which Frank E. Stewart was named convention chairman and H. M. Daily, co-chairman. Chairmen and members of ten other committees were appointed to supervise preparations for specific phases of the meeting.

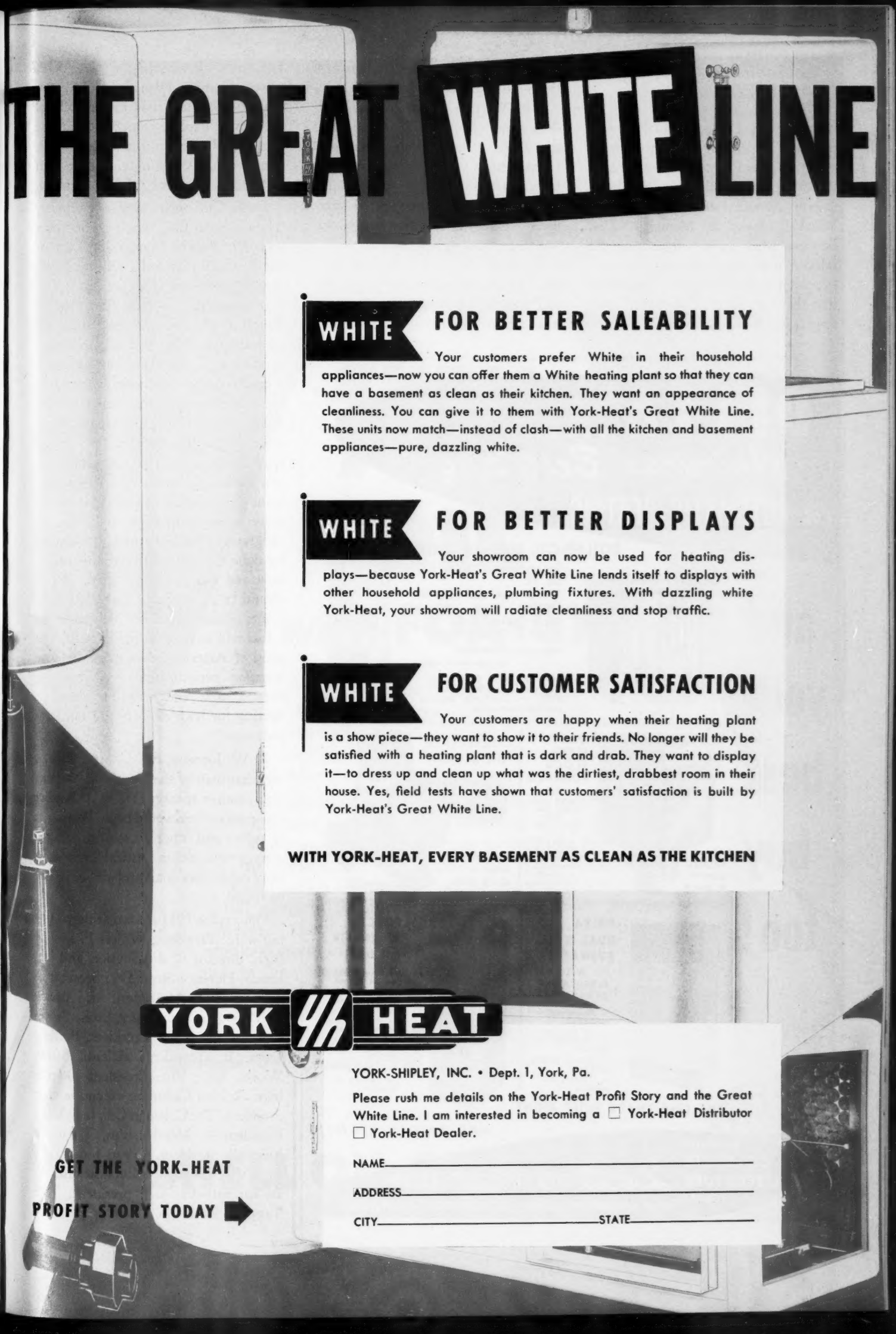
William E. Garber, president of the Indiana State Association, has reported progress in mapping out the program. The afternoon session on February 1 will feature a talk by Robert J. Kryter, Esterline Angus Co., who will discuss "Atomic Power in Peace and War." On February 2, Elmer Krueger, president, Paper Arts Co., Indianapolis, will speak on "Troubles and People the World Over" at the morning meeting, while N. J. Pierson, Indianapolis Chamber of Commerce, will deliver a paper, entitled "The Open Road," during the afternoon session.

Other speakers include: Marshall D. Abrams, managing director, Construction League; William T. Miller, Professor of Heating and Ventilating Engineering at Purdue University; Joseph Wilder, executive secretary, Sheet Metal Contractors' National Association. Authoritative speakers on steel supply, controls and regulations will round out the program.

ICHAM Convention Held at Cincinnati

THE 1950 WINTER CONVENTION and Management Conference of the Institute of Cooking and Heating Appliance Manufacturers, Washington, D. C., was held December 4 to 6, at the Netherland Plaza Hotel, Cincinnati. On the morning of the first day a meeting of the Oil Division Technical Section was held, with Roy W. Johnson, president, A-P Controls Corp., presiding. D. F. Jones, chief engineer, Duo-Therm Div., Motor Wheel Corp., led a discussion on "Trends of municipal and state building and fire code provisions." He told of the growing concern about "restrictive ordinances,"

(*Please turn to page* 116)


THE GREAT WHITE LINE
WHITE FOR BETTER SALEABILITY
Your customers prefer White in their household appliances—now you can offer them a White heating plant so that they can have a basement as clean as their kitchen. They want an appearance of cleanliness. You can give it to them with York-Heat's Great White Line. These units now match—instead of clash—with all the kitchen and basement appliances—pure, dazzling white.
WHITE FOR BETTER DISPLAYS
Your showroom can now be used for heating displays—because York-Heat's Great White Line lends itself to displays with other household appliances, plumbing fixtures. With dazzling white York-Heat, your showroom will radiate cleanliness and stop traffic.
WHITE FOR CUSTOMER SATISFACTION
Your customers are happy when their heating plant is a show piece—they want to show it to their friends. No longer will they be satisfied with a heating plant that is dark and drab. They want to display it—to dress up and clean up what was the dirtiest, drabbest room in their house. Yes, field tests have shown that customers' satisfaction is built by York-Heat's Great White Line.
WITH YORK-HEAT, EVERY BASEMENT AS CLEAN AS THE KITCHEN
YORK YH HEAT
GET THE YORK-HEAT PROFIT STORY TODAY
YORK-SHIPLEY, INC. • Dept. 1, York, Pa.
Please rush me details on the York-Heat Profit Story and the Great White Line. I am interested in becoming a ☐ York-Heat Distributor ☐ York-Heat Dealer.
NAME
ADDRESS
CITY STATE

which govern or stop the installation of pot type vaporizing units in certain cities. He read also a report from a "Fire Report" for the State of Michigan by Arnold Renner, Acting Fire Marshal, State of Michigan, East Lansing, Mich., giving figures on the relative number of oil fires, as compared with coal and wood. Considering that there are more oilfired than coalfired homes in the state, said Mr. Jones, the report revealed more coal fires for the period covered.

J. H. Witte, associate engineer, Underwriters' Laboratories, also spoke at the session about proposed revisions in Underwriters testing requirements. Other discussions dealt with installation and service training and Government purchasing specifications on vaporizing pot type heaters.

President A. B. Ritzenthaler conducted a general session on the morning of December 5 and opened with his annual report. Following were talks by Harold Boeschenstein, president, Owens-Corning Fiberglas Corp., discussing "Business risks in a mobilized economy"; Pauline Dunckel, executive secretary of the Institute, who gave a "Report from Washington" and Alden P. Chester, president, Globe American.

Dean Olds, chief design engineer, The Coleman Co., Inc., presided at a session of the Oil Division, on December 5, which featured a talk by A. T. Atwill, president, Quaker Mfg. Co. and president, Oil-Heat Institute of America. He outlined the "Joint responsibility of oil and oil appliance producers to the American people," pointing out the necessity of producing sufficient equipment to satisfy demand, operating at efficiency second to none. "It is the duty of the oilfired space and water heater manufacturers," he said, "to make all of the equipment they possibly can in 1951, and if there is any compulsory reduction in programs by the Government, it should be done equally for large and small, new and old producers alike; and it should be remembered that the public wants oilheating. In my opinion oil as a fuel will accomplish the most for the good of America in an emergency or wartime period, because it can be burned most efficiently for comfort heating for both civilian and military purposes."

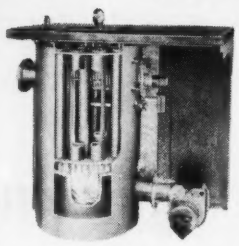
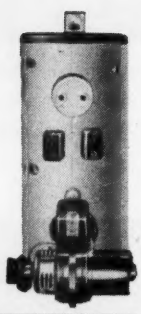
R. W. Johnson, A-P Controls Corp. and chairman of the Technical Section was another speaker. He said that in his opinion there would be no shortages of valves and other accessories due to copper and other critical materials since substitutes in all probability could be found.

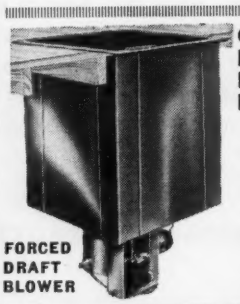
Officers for 1951 elected at the meeting were: President, Walter F. Muhlbach, director of distribution and research, Florence Stove Co.; Secretary-Treasurer, C. M. Dunn, vice president and general manager, Estate Stove Co.; Executive Vice President, Bolling Jones, Jr., president, Atlanta Stove Works, Inc.; Vice President—Meetings, Sheldon Coleman, executive vice president, The Coleman Co., Inc.; Vice President — Memberships, James Mitchell, president, Grand Industries, Inc.; Vice President—Publications, A. B. Ritzenthaler, vice president, The Tappan Stove Co.

DELTA .....
America's Best Buy
in AUTOMATIC HEATING

and your best buy too!

BOILER-OIL BURNER UNIT
Steam from 320 to 1100 Sq. Ft.
Water from 200 to 1760 Sq. Ft.
Bilt-in Tankless Coil
A.S.M.E. Construction
←Extended Flush→
Equipped with NEW MAGNESIUM ANODE "LIFE" ROD — protects boilers against corrosion

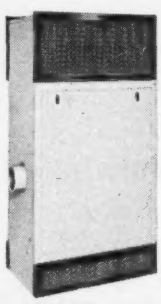



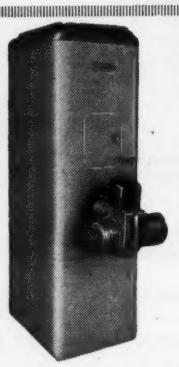

FORCED DRAFT BLOWER

OIL-FIRED FLOOR FURNACE
- Fully wired and assembled
- Floor area only 2′ x 2′
- 50,000 BTU Commercial Standards
- Smokeless-Sootless Burner

CONVERSION OIL BURNER

Available from ¾ to 16 GPH


DELTA DUAL-WALL FURNACE
WITH CIRCULATING BLOWER FAN
- Thermostat controlled
- All parts easily accessible for servicing
- Output 52,000 BTU's
- Factory assembled


FORCED WARM-AIR OIL UNIT
- Flange-mounted oil burner
- Durable—Efficient twin-heat exchanger
- Pre-cast Bilt-in combustion chamber
- Output 90,000 BTU's
- Large blower
- Factory assembled

THE LINE THAT'S BUILT RIGHT
AND PRICED RIGHT!

SEND FOR COMPLETE LITERATURE TODAY!
Delta HEATING CORPORATION
85-07 NORTHERN BOULEVARD • JACKSON HEIGHTS • NEW YORK

SHELL FUEL OIL with FOA-5X

The sole function of the Shell Laboratory at Sewaren, N. J., is Oil Heat research—the development of better heating oils and the constant search for better means of utilizing them.

Continuing Shell Research—now entering its 23rd year—has had practical and impressive results: new techniques to improve fuel oil uniformity and cleanliness; the Shell-developed Combustion Head which points the way to substantial gains in oil burner efficiency; the Shell "Smoke Meter," the first simple, reliable device to translate smoke content of fine gases into terms of heating efficiency; and, in the past year, the full-scale introduction of FOA-5X which keeps filter screens clean—eliminates a major cause of oil burner service calls.

The projects under way at Sewaren *today* promise still more contributions to this constant goal of Shell Research—*Better Oil Heat.*

SHELL OIL COMPANY

SHELL

Wisconsin Dealers hold annual Meeting and Christmas Party

THE ANNUAL MEETING and election of officers for Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., was held at the Milwaukee Press Club on November 30. Carter Wells was elected president, after Charles L. Robel, previously nominated withdrew because of conditions beyond his control. Alfred Hegeman was nominated and elected vice president, to replace Mr. Wells on the original ballot. John Weiler became treasurer and Harold M. Mottram was re-named executive secretary.

The December 14 meeting of the group was its annual Christmas party. The gathering commenced with a business meeting and then went on to a special program honoring Past Presidents. The following were feted: E. R. Benson (1930 and 1932); Clarence J. Mullins (1933-35); Louis A. Kern (1936); Charles G. Kettinger (1937); Alfred Hegeman (1938-39); Grover Fillbach (1941); J. H. Shellenberger (1942); Walter J. Schroeder (1943-1948); J. L. Savage (1949) and Lawrence O. Woehrer (1950).

For the Christmas party portion of the meeting each member was requested to bring a gift with Santa Claus on hand to make distribution.

On December 9 the new board of directors met in special session to prepare reports on the advertising fund campaign, annual rally, financial assistance under the Oil-Heat Institute plan, home show and membership plans. These reports were delivered at the meeting by committee chairmen.

New England OHI issues List of associate Members

THE FIRST EDITION of a Buyer's Guide, published by Oil Heat Institute of New England, Boston, Mass., consists of a classified list of associate members of the Institute and the products they sell. It is intended to make the Guide an annual publication, issued during April of each year. T. G. Colter, associate membership representative, is given credit for amassing and compiling the data which appear in the first edition.

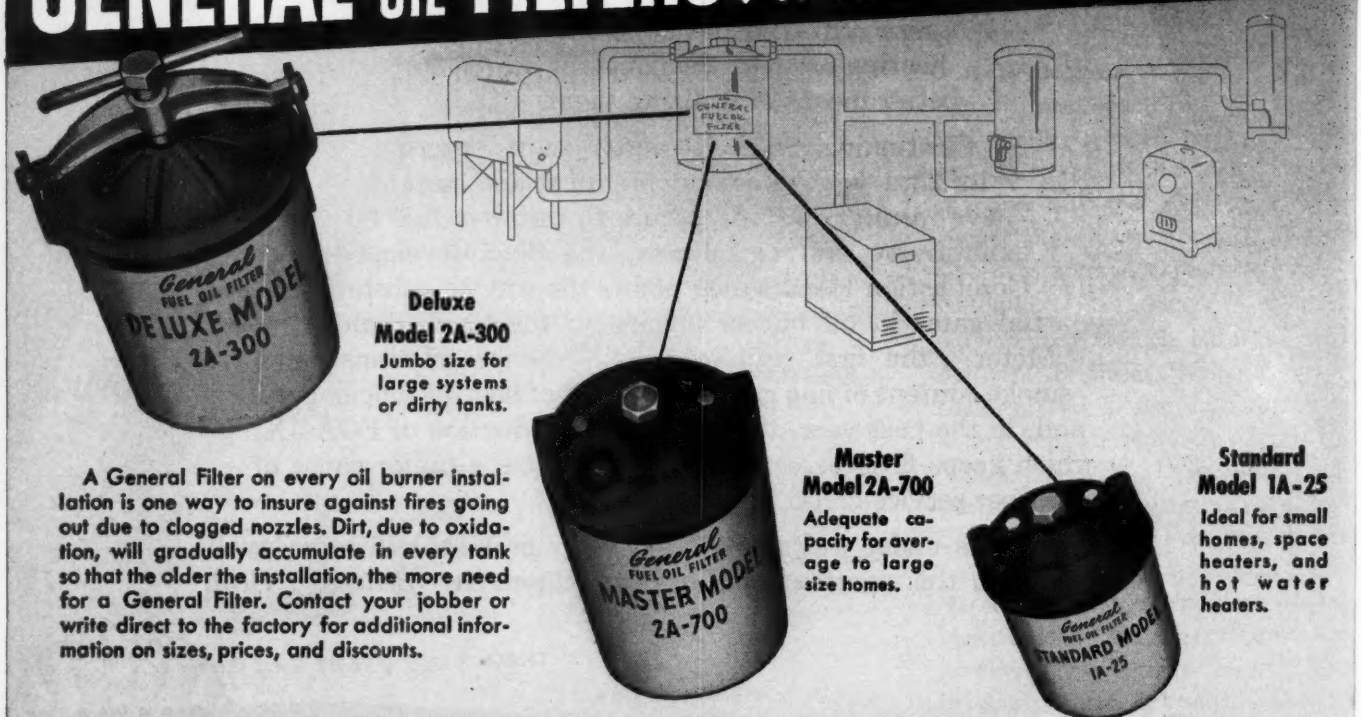
It is meant to be a reference book for members of the Institute to enable them to quickly locate local sources for various products. One section lists brand names and their distributors, with an identifying index number. The second section is the index and lists alongside the identifying number the name and addresses of each distributor.

Credit File begun by Maryland Association

DURING NOVEMBER the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., inaugurated a credit file of fuel-oil consumers. Under the plan dealers are invited to send in the names of their undesirable accounts, undesirability being determined by the dealer and no reasons given. Association headquarters then compiles a list alphabetically and mails the complete roster to cooperating companies. Only those dealers who submit names will receive lists and supplements.

Enough companies already are participating, or have signified their intention to do so to make the undertaking worthwhile.

GENERAL FUEL OIL FILTERS ARE SURE FIRE



Deluxe Model 2A-300 Jumbo size for large systems or dirty tanks.

Master Model 2A-700 Adequate capacity for average to large size homes.

Standard Model 1A-25 Ideal for small homes, space heaters, and hot water heaters.

A General Filter on every oil burner installation is one way to insure against fires going out due to clogged nozzles. Dirt, due to oxidation, will gradually accumulate in every tank so that the older the installation, the more need for a General Filter. Contact your jobber or write direct to the factory for additional information on sizes, prices, and discounts.

GENERAL FILTERS INCORPORATED — GENERAL FUEL OIL FILTERS — 12890 WESTWOOD AVENUE DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO, ONTARIO

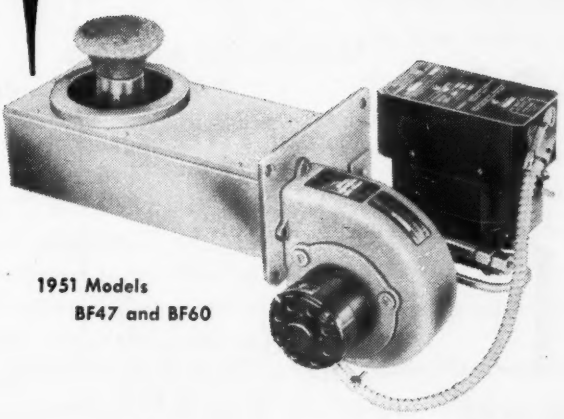
MORE FURNACE MANUFACTURERS THAN EVER BEFORE WILL CHOOSE

KRESNO-STAMM
Since 1927

The New 1951 *Ball Flame*

Reg. U.S. Patent Office

OIL BURNER



1951 Models
BF47 and BF60

In 1951 manufacturers will again show their overwhelming confidence in the quality and performance of "Ball Flame" Burners by making them a vital part of the furnaces they will ship to small homes projects and to builders of hundreds of individual homes.

This *completely automatic, pressurized air, gravity type oil burner* is now standard for leading makes of small furnaces, installed in many flourishing home developments.

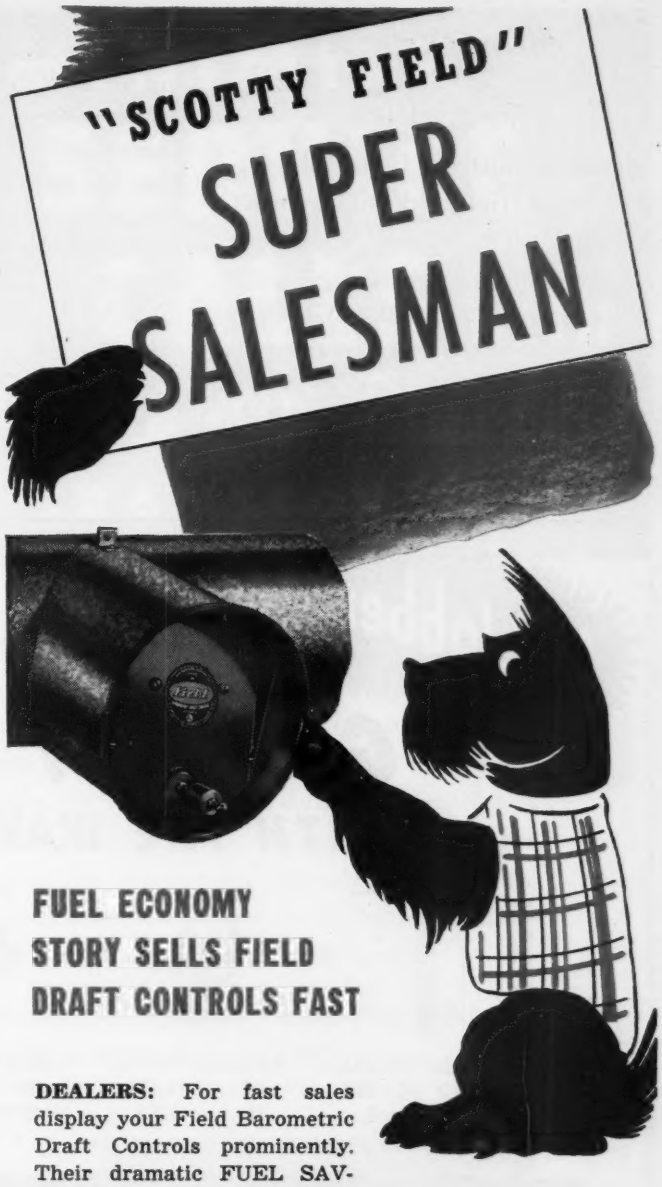
Builders and heating contractors in large numbers are writing the "Ball Flame" into their furnace specifications.

Here's Why

- ✓ **It's absolutely quiet—no motor hum, no flame roar.**
- ✓ **It burns less than 0.75 gallon per hour *without clogging*, flame deflection and burning out of fire boxes, as with small capacity pressure burners.**
- ✓ **It vaporizes and burns the oil perfectly — no starving the center of burner flame and poor combustion.**
- ✓ **An automatic levelling device is built into each burner.**

KRESNO-STAMM MFG. CO. (America) Inc.
PALISADES PARK, N. J.
Canadian Affiliate: Kresno-Stamm Mfg. Co. (Canada) Ltd.
1452 Drummond Street • Montreal, P. Q.

"SCOTTY FIELD" SUPER SALESMAN



FUEL ECONOMY STORY SELLS FIELD DRAFT CONTROLS FAST

DEALERS: For fast sales display your Field Barometric Draft Controls prominently. Their dramatic FUEL SAVING story makes them best-sellers, self-sellers!

A Field Barometric Draft Control improves the performance of any heating plant—provides for lower fuel consumption, increased safety, longer plant life. That's why dealers find it profitable and easy to sell the efficient, durable Field Barometric Draft Control. Write today for complete information on the Field Barometric Draft Control line.

On The Finest Heating Equipment Field Controls The Draft.

FIELD BAROMETRIC DRAFT CONTROLS

FIELD CONTROL DIVISION
H. D. CONKEY & COMPANY MENDOTA, ILLINOIS

AFFILIATES:
CONCO MATERIALS HANDLING DIVISION
CRANES—HOISTS

Field REGISTERED

AFFILIATES:
CONCO BUILDING PRODUCTS, INC.
BRICK—TILE—STONE

BAROMETRIC DRAFT CONTROLS

See our exhibit at the 10th International Heating & Ventilating Exposition, Commercial Museum, Philadelphia—January 22 to 26, 1951. Space No. 708.

Manufacturers Activities

General Controls featured On Richfield Oil Telecast

A SERIES of industrial "Success Stories" was inaugurated on November 24 when General Controls Co., Glendale, Calif., was featured in a television program sponsored by the Richfield Oil Corp. over station KTTV. The programs will take televiewers behind the scenes of important plants and factories in southern California and will run for a full hour.

The camera explored the General Controls plant, picking up assembly lines and machinery used. J. F. Ray, vice-president in charge of sales, accompanied Keith Hetherington, announcer, on the tour and interviewed a number of plant workers, discussing their individual operations and company high points, such as the production incentive plan for employees. Featured during the program were camera

views of the thermostat assembly line and the thermostat room where a constant temperature of 70 degrees is maintained.

Days of preparation were necessary to plan and map out the program, for which three camera units were used, requiring the services of about two dozen technicians.

Maid-O'-Mist adding to Production Facilities

ADDITION of a building to increase production space by approximately 25% has been undertaken by Maid-O'-Mist, Inc., Chicago, Ill. Constantly increasing sales and addition of new items to the line has prompted the move.

The new area permits the installation of a forced hot water heating system for service and for demonstration. Part of the system also will be used as an experimental laboratory on Maid-O'-Mist's line of hot water air valves, balancing valves and similar items. This system supplements a complete forced warm air system in another section of the factory, which also serves as a testing and experimental laboratory for furnace humidifiers and related products.

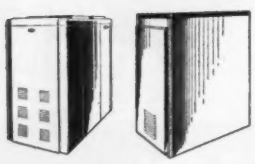
Perfex Christmas Message Is Statement of Policy

AN UNUSUAL Christmas greeting has been developed by Perfex Corp., Milwaukee, Wis. It has appeared in trade paper advertising, including the December issue of FUELOIL & OIL HEAT, and copies have been mailed to employees, directors, customers, prospects and suppliers.

In six brief paragraphs the company explains its basic business policy and tells of the background and meaning of its slogan, "Controls You Can Trust." Elaborating the message says,

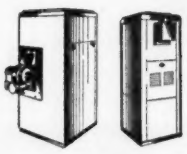
Mr. Jobber... are you ready?

GET SET NOW
WITH THE WAYNE LINE



WAYNE OIL-FIRED DELUXE FURNACES AND BOILERS FOR ANY SIZE HOME.

FAMOUS WAYNE OIL BURNERS IN ALL SIZES.



POPULAR SMALL HOME WAYNE "HI-BOY" OIL-FIRED WINTER CONDITIONERS.

JOBBER *Franchises* AVAILABLE

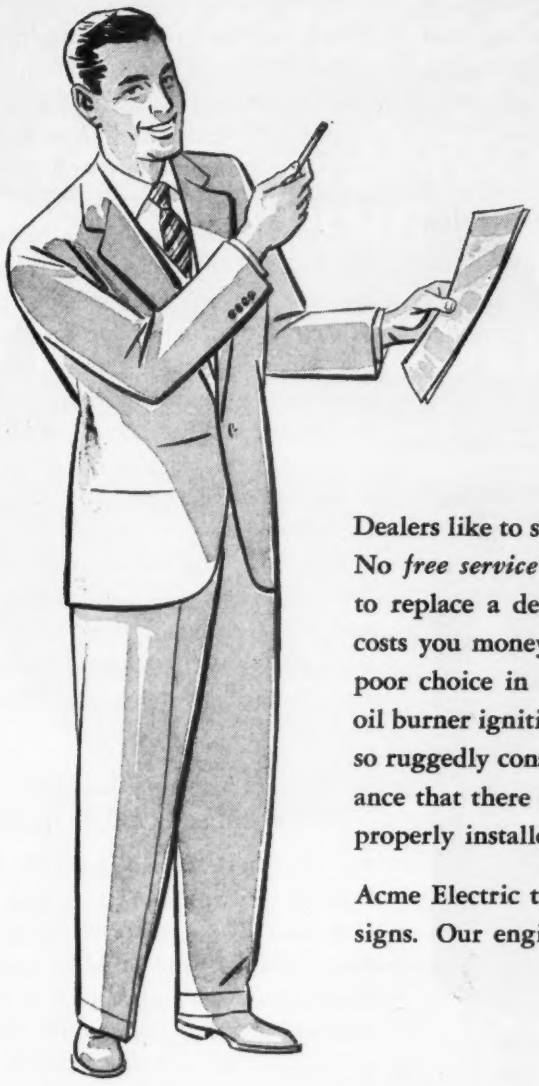
GET WAYNE NOW

Act NOW to strengthen your supply and sales position. Consider the continuous demand for Wayne home equipment. Get set now—with Wayne—for more sales this year and in future years.

Wayne advertising and public acceptance help you sell. Millions of magazine ads, newspaper service, store display material, literature and sales helps are designed for you to cash in on. That's why Wayne Dealers get MORE sales and profits. You, too, can have and feature WAYNE, the complete line.

- Write For Exclusive Oil-Jobber Franchise Details
- Several Select Territories Available

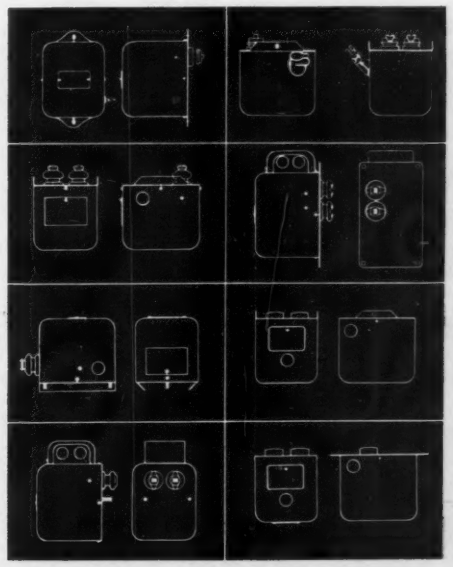
WAYNE HOME EQUIPMENT CO., INC.
800 GLASGOW AVE. FORT WAYNE 4, IND.



MINIMIZE SERVICE CALLS WITH Acme ACME Electric TRANSFORMERS

Dealers like to sell oil burners that give complete customer satisfaction. No *free service* calls, no parts replacements. Every time a dealer has to replace a defective transformer, it takes a slice out of his profit, costs you money and starts the customer thinking that he has made a poor choice in his purchase. In designing the Acme Electric line of oil burner ignition transformers, our goal was to develop a transformer, so ruggedly constructed, so highly efficient and dependable in performance that there need never be trouble-shooting caused by transformers properly installed and operating under normal conditions.

Acme Electric transformers are available in a variety of mounting designs. Our engineers will be glad to cooperate with you.



ACME ELECTRIC CORPORATION

501 WATER ST. CUBA, N. Y.

Acme ACME Electric TRANSFORMERS

"To us this phrase means many things. It means representatives you can trust —men who live up to their promises. It means employees you can trust to do their level best in producing good, dependable controls. It means designing talent you can trust to develop the best possible controls from the best materials for the purpose. It means management you can trust to provide every necessary modern facility, to make certain that trustworthy controls reach you at a fair price, at the right time, on a continuing basis."

The slogan "is the business philosophy we live by," continues the message. Such a statement of policy would be appropriate at any time, but, coupling it with a wish for a satisfying and profitable business in the months ahead, Perfex has developed a sincere greeting for the Christmas Season.

Torrington publishes New Airotor Catalog

PUBLICATION of a new 48-page catalog, "Torrington Airotor Blower Wheels," larger than any previous catalog, has been announced by the Torrington Mfg. Co., Torrington, Conn. It contains full specifications and performance charts for several new models and features the recently-perfected "Coasting Hub," which provides air delivery during the first few seconds after pump and motor stop to prevent after-fire problems on oilburner installations.

Complete data for all sizes, based on the findings of Torrington's research engineers, are included to enable users to have a thorough guide for proper use and selection of blower wheels. Graphs show performance at varying horsepower and rpm, details of blower housings, most efficient scroll dimensions and other technical and engineering information.

Equally helpful to manufacturers is a section showing the merchandising and selling helps Torrington offers. Also, its research engineers are available to solve problems of individual application.

McDonnell holds Eleventh Christmas Eve Sweepstakes

THE ELEVENTH "running" of the McDonnell Sweepstakes was held on Christmas Eve at the new Spaulding Ave., Chicago plant of McDonnell & Miller, Inc. As in past years, E. N. McDonnell, president, selected the names of friends and acquaintances in the business who are sent a card bearing their name. The stub from the card is deposited into the grab bag and the names of five winners picked on December 24.

This time the first name selected received a set of three matched pieces of luggage, second prize winner was awarded a Land Polaroid camera and accessories. Third and fourth names drawn were sent Shick electric razors and the last prize winner drew a golf club, with an adjustable head.

Morrison Steel plans Extensive publicity Program

THE ADOPTION for 1951 of the most extensive publicity program in the history of Morrison Steel Products, Inc., Buffalo, N. Y., calls for the continuance of consumer publication advertising in general and shelter magazines and in leading heating, architectural

Amazing New Improved
WALKER
DRAFT REGULATOR
SAVES UP TO 25%
on All Types of Fuel . . .
COAL, GAS & OIL!

TYPE 34C for space heaters, water heaters, and stoves.

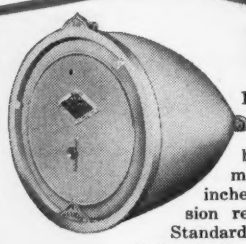
NEW BOX HINGE IS FRICTION FREE
Seals bearing points from soot, moisture and rust. Won't clog or stick. Maintains positive draft values exactly as adjusted.

Over 7 million now in use!

•Yes, now you can save up to one-fourth on fuel cost and get *more* efficient heating performance. The new, improved, automatic Walker Draft Regulator assures maximum fuel combustion under *all* stack conditions. This means *even* heating and prevents unnecessary heat loss up the chimney. It's quickly installed, easily adjusted, and low in cost.

Manufacturers can improve the performance of their heating equipment by specifying Walker Controls.

There's a Walker Regulator to fill every need, too . . . from a small stove to a giant industrial boiler. Each is factory tested . . . each guaranteed to give positive automatic action.



WALKER TYPE 34

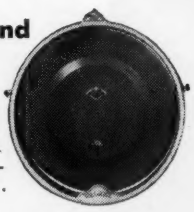
For any type of domestic furnace in stores, small office buildings and apartments. Sizes 6-20 inches. Rust and corrosion resistant. Listed as Standard by Underwriter's Laboratories. Shown with installation collar.

WALKER MFG. & SALES CORP.
St. Joseph, Mo.

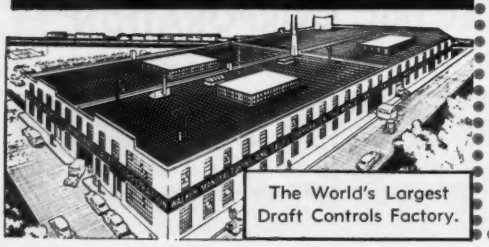
World's largest factory producing Automatic Draft Regulators exclusively . . . not competing either directly or indirectly with producers of any type heating equipment.

COMMERCIAL and INDUSTRIAL

(Ball Bearing) Built to meet toughest conditions. Sizes 16-36 inches. Ideal for power plants, schools, garages, industrial plants, laundries . . . Thousands in use!



WALKER Automatic DRAFT REGULATORS



The World's Largest Draft Controls Factory.

Walker Manufacturing & Sales Corp.
17th & Penn St., Dept. 20,
St. Joseph, Mo.

Please send me more information on the full line of Walker Automatic Draft Regulators. No obligation, of course!

Name_____
Firm_____
Address_____
City_____ St._____

Sentry

AT-A-GLANCE

REMOTE and DIRECT READING

TANK GAUGES

FOR BASEMENT TANKS: Type D-O for 2" openings, Type D-10 for 1½" openings.

For accurate, easy reading of tanks — indoors, outside or underground.

FOR UNDERGROUND TANKS: Type D-U, shown at right, for 2" openings only.

Left: Standard type At-A-Glance Gauge for direct reading at storage tank. Also available with special fitting for use and adaptation with remote gauge indicators to permit dual readings — both at tank and outside.

Dependable, Inexpensive, Weatherproof... Simple Mechanical GAUGES, Easy to Install

Accurately indicates liquid level in remote storage tanks at all times — Not affected by specific gravity oil changes or variations. Simplified mechanical operation eliminates unnecessary fittings, bulbs or levers for oil men to tamper with — no need for access to building. Can be installed for dual location readings — *indoors and out*. Non-corrosive stainless steel and brass extension lines connect tank float with cast aluminum, weatherproof, thermometer type indicator — calibrated in fractions. Easy to read, unconditionally guaranteed. Write for folder showing complete line.

KRUEGER *Sentry* GAUGES

GREEN BAY • WISCONSIN

Count on OIL COASTAL COMPANY

... DEPENDABLE SUPPLY

... TIME-SAVING FACILITIES

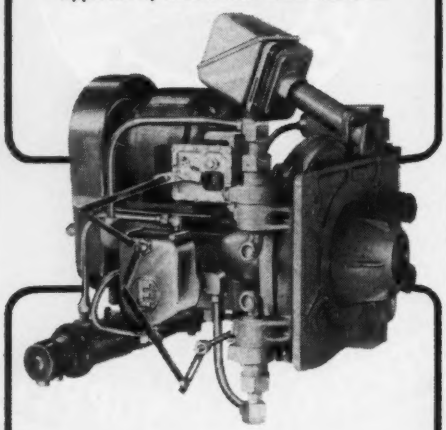
... PROFIT-BUILDING ASSISTANCE

EXECUTIVE OFFICES: 60 PARK PLACE

NEWARK 2, N. J.

No Better Burner Built!

ENTERPRISE
HEAVY-DUTY HORIZONTAL
ROTARY OIL BURNERS
Approved by Underwriters' Laboratories, Inc.



Backed by 25 years of continuous engineering progress, Enterprise quality burners have gained unqualified acceptance in virtually every type of heavy-duty firing application. Enterprise V-Belt drive oil and combination oil-gas burners are built in 10 sizes, in manual, semi-automatic and full automatic models. Capacities range from 4 to 200 gals. per hour, 12 to 650 boiler hp.

Whether you buy, sell, install or service burners, you can rely on Enterprise for long-term economy, unmatched dependability. Compare—feature for feature—and you'll see why today, modern Enterprise Burners are

The Choice of Heating Experts

Distributors:

Several choice territories are still available in South Atlantic Coast States for qualified burner distributors. Write for full details.

25th Anniversary 1951
Enterprise
DEPENDABLE
Oil Burners

ENTERPRISE ENGINE & MACHINERY CO.
A Subsidiary of General Metals Corporation
18th & Florida Sts., San Francisco 10, California

and building trade papers. Also to be used again are the two series of color slides, one for the use of Morrison representatives to show to potential Mor-Sun merchandisers, the other to demonstrate company products to the consumer.

Another innovation in the program is the adoption of nation-wide Telephone Trade Mark service for all Mor-Sun merchandisers from coast-to-coast, encompassing the use of the classified sections of all telephone directories. The entire program is being supplemented by a direct mail program, point-of-sale material, newspaper ad mats, new product literature and envelope enclosures and Morrison exhibition booths for use at home shows.

Gene Brown, sales manager of the Furnace Div., points out that the new program is almost double last year's and "testifies to the faith of Morrison management and Mor-Sun merchandisers in Morrison's heating equipment and in the future of this nation."

Scully Signal to exhibit At Transport Vehicle Show

SCULLY SIGNAL CO., Cambridge, Mass., has announced it will have an exhibit at the Transport Vehicle Show, to be held in New York's Madison Square Garden, February 1 to 4. In addition to showing new products of interest to fueloil and oilheating men, the company is planning to introduce an entirely new item at the Show.

Armstrong Personnel Receive Promotions

PROMOTIONS for four members of its organization have been announced by the Armstrong Furnace Co., Columbus, Ohio. L. G. Hickok, who has been with the company since 1943, has been promoted to the position of executive vice-president, to supervise sales, merchandising and territory development.

W. J. Olsen has advanced to general manager of the Columbus plant. He has been with the company since 1940 and has a total of 18 years of experience in furnace manufacturing and sales. Most recently he organized and managed the Buckeye Furnace Pipe Co., on leave of absence.

New factory manager of the Columbus plant is N. H. Deck, who prior to

Top: *Hickok, Olsen.*
Bottom: *Deck, Galleher.*

this promotion developed an excellent knowledge of Armstrong products and production procedures as production engineer at Columbus.

H. C. Galleher, who had been vice president of Kight Advertising, Inc. and handled the Armstrong account for the past two years, has been named advertising manager of the company. He will be in charge of both advertising and sales promotion programs.

B & G to increase Trade to Mexico

NAMING of George F. Gilfrin by Bell & Gossett Co., Morton Grove, Ill., as exclusive agent for its products in Mexico is revealed as part of a program to expand the sale of B & G equipment in the fast growing Mexican market.

Mr. Gilfrin, for 20 years a heating engineer in Mexico, will represent the company throughout the country with the exception of five states.

Timken treats largest Number To Sellabration Vacation

LAST-MINUTE qualifiers boosted the number participating in the November Sellabration Vacation of the Timken Silent Automatic Div., Jackson, Mich., to a record-breaking total of 506. Described as the most successful in the

throughout the country...

JOBBERS SAY:

"FEDERAL makes top quality, durable, easy to sell BOILERS."

ARCHITECTS SAY:

"FEDERAL makes top quality, efficient, precision engineered BOILERS."

CONTRACTORS SAY:

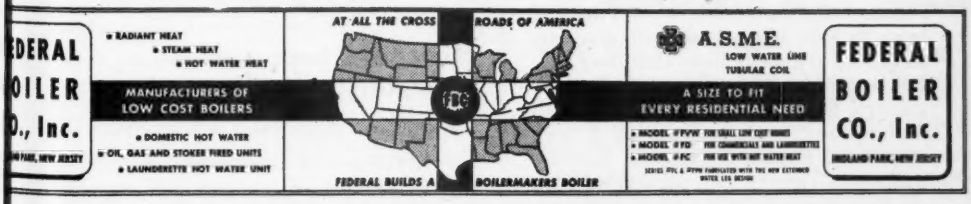
"FEDERAL makes top quality, easy to install, easy to service BOILERS."

HOMEOWNERS SAY:

"FEDERAL makes handsome, compact, low cost BOILERS."

FEDERAL SAYS: "AMEN"

We're not ones to blow our own horn, but the many, many compliments we have received on both FEDERAL BOILERS and FEDERAL SELLING POLICY make us feel good. For our complete story, one that will make you feel good, too, and your business feel even better, write today. Or;



VISIT OUR DISPLAY AT PHILADELPHIA Jan. 22 to 26
10th International Heating & Ventilating Exposition BOOTHS 810 & 808

FEDERAL BOILER MODELS INCLUDE:

Model #FVW
For small low cost homes with radiant heat, hot water or steam. 66,000 to 96,000 net B.T.U. output.

Model #FC
Oil or gas fired unit, ideal for use with hot water heating systems, radiant heat or steam. 77,000 to 312,000 net B.T.U. output.

Model #FD
Ideally suited for launderettes and commercials. A stoker, oil and gas fired unit. 360,000 to 528,000 net B.T.U. output.

FEDERAL BOILER COMPANY, INC.

GRANITE & WEST ST., MIDLAND PARK, N.J.

General Offices: 2610 E. TREMONT AVE., NEW YORK 61, N. Y.

FEDERAL BOILER CO., INC.,
General Offices
2610 E. Tremont Ave., Bronx 61, N. Y.

Please send me free bulletins.

Name.....

Address.....

OT* SERVICEMAN SAYS —

"Imagine that!

JUST TIGHTEN 2 SET SCREWS TO ATTACH A WEBSTER ELECTRIC UNIT"

"For my money a trouble shooter doesn't have to look like a complete machine shop . . . I got away from that long ago. For example, I recommend Webster Electric Fuel Units and use them on all replacement work because all I have to do, to install a Webster Electric unit, is to tighten two set screws with an Allen wrench. Could you find anything more simple? And I know when I'm done that my fuel unit troubles are over on that job. Remember, you can save time and trouble too, by just specifying Webster Electric Fuel Units."

*Old Timer

An identical unit is made for sale in Canada by Canadian Acme Screw & Gear, Ltd. of Toronto, under license by the Webster Electric Company, Racine, Wisconsin. Established 1909.

WEBSTER ELECTRIC
RACINE • WISCONSIN

"Where Quality is a Responsibility and Fair Dealing an Obligation"

20-year history of this annual event, winners this year went on a six-day, all-expense cruise to Bermuda. The Vacation is awarded to dealers and salesmen for outstanding achievement in the sale of Timken heating equipment. Winners not able to go on the vacation are given their choice of merchandise prizes.

To accommodate this year's group both the Princess Hotel and the Elbow Beach Surf Club were reserved for the three-day stay on the island. Activities included cocktail parties, games, floor shows, a banquet and sightseeing tours.

T. A. Crawford, general manager of the Division, has stated that world conditions permitting, preparations soon will be made for the 1951 contest, which normally begins early in the year and ends in the fall.

Silent Glow continues Consumer Advertising

CONTINUANCE of its consumer advertising program in national magazines has been announced by the Silent Glow Oil Burner Corp., Hartford, Conn. Advertisements have been appearing consistently in *The Saturday Evening Post, The American Home, House Beautiful* and *Better Homes and Garden,* all mass circulation magazines. Ten and a half million messages, thus, have been reaching customers and prospects, extolling Silent Glow oil-burners and the men who sell them.

Honeywell makes sales Promotions; holds Conference

EXPANSION of its sales organization in the heating and commercial divisions has resulted in promotions for seven members of the sales departments of Minneapolis - Honeywell Regulator Co., Minneapolis, Minn.

Arthur H. Lockrae, vice-president, heating controls division, announced the following promotions: R. M. Locke to assistant sales manager, wholesale division; J. C. Dorsey, sales manager, manufacturers' division, mid-Atlantic region, Philadelphia; H. S. Gray, sales manager, wholesale division, mid-West region, Chicago; W. E. Dobie, sales manager, wholesale division, eastern region, New York and R. G. Hayes, sales manager, wholesale division, mid-Atlantic region, Philadelphia.

Texas and New England *compare notes at the annual Delco Appliance Sales Conference. Curt Eggleston, southwestern regional manager, and Paul E. Carlson, Boston zone manager, each try to sell the other on the merits of his part of the country. Forty other Delco salesmen were in Rochester November 27 to December 1 to attend the Conference. Andrew C. Freimann, general sales manager, presented the 1951 sales and advertising campaign planned for the Delco Appliance Div.*

In the commercial division, vice-president John Haines announced that R. H. Jacobs will be transferred to Minneapolis to take charge of market development activities and Ralph Crysler will be transferred to the home office as manager of the commercial division's technical group.

Key service and installation managers and representatives of Honeywell's eastern region convened on January 11 and 12 at the Belmont Plaza Hotel, New York, for the second annual servicing conference. The company's Toronto subsidiary was represented for the first time. The two-day meeting featured discussions of improved techniques for service and installation of Honeywell's entire line.

York-Shipley receives Third Levittown Contract

FOR THE THIRD YEAR, and the second in succession, York-Shipley, Inc., York, Pa., has been awarded a contract for heating equipment by Levitt & Sons, Inc., developers of Levittown, L. I., N. Y. This latest $1,250,000 contract calls for 4800 oilfired units for radiant heat. York-Shipley made its first Levittown installation in 1948, using a new

OT* SERVICEMAN SAYS —

"I have no trouble—
BECAUSE WEBSTER ELECTRIC TRANSFORMERS ARE 'AT HOME' ON ANY BURNER"

"I find Webster Electric transformers real time-savers on my service calls. The interchangeable bases help me to service any make of burner faster and easier. What's more, I can pick up replacement units from my Webster Electric Service Station, so I don't have to stock a lot of specials. I decided, long ago, that I saved from every angle by standardizing on Webster Electric transformers . . . the line engineered with the serviceman in mind. Try them yourself and you'll be sold too."

*Old Timer

Webster Electric transformers are made by Webster Electric Company, Racine, Wisconsin. Established 1909.

WEBSTER ELECTRIC
RACINE • WISCONSIN

"Where Quality is a Responsibility and Fair Dealing an Obligation"

HERE GOES OUR LAST
Klemm FUEL OIL FILTER
CALL OUR JOBBER QUICK!

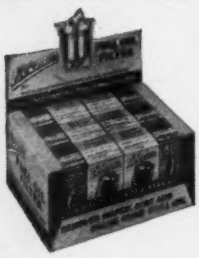
YOU, TOO, CAN MAKE EXTRA EASY SALES WITH KLEMM FUEL OIL FILTERS NOW

When serving your customers with Fuel Oil or cleaning their oil burners be quick to suggest a Klemm Fuel Oil Filter. Klemm Filters remove water, rust, and sediment of all kinds from oil . . . helps step up heating efficiency. Get a supply of Klemm Oil Filter units from your jobber TODAY. See for yourself how easily customers can be sold this highly profitable item.

Model 430 G

Klemm Oil Filters remove all water, dirt, sediment, rust, and all foreign matter from fuel oil . . . help make customers happy with the oil you sell. Metal bowl units listed Underwriters' Laboratories. All sizes available for every filtering need.

ORDER A SUPPLY FROM YOUR JOBBER TODAY



SILENT SALESMEN

Packed 12 to a carton, Klemm JR model oil filters take little counter space yet do a BIG job of selling themselves. Customers are attracted TO and buy direct FROM this attractive display carton.

ATTRACTIVE DISCOUNTS TO JOBBERS AND DISTRIBUTORS. WRITE FOR FULL DETAILS TODAY.

Klemm

AUTOMOTIVE PRODUCTS CO.

1718 N. Damen Ave., Chicago 47, Ill.

type boiler unit which provided two-temperature water without mixing valves. The 1950 Levittowner model uses the same basic boiler, encased in a white cabinet for kitchen installation.

S. H. Shipley, president, stated that "By the end of 1951, two out of every three homes in this post-war community of 70,000 persons will be heated by York-Heat's special radiant heating boiler-burner units."

Catalog covers complete Line of Lamneck Ductwork

THE COMPLETE line of Lamneck simplified duct systems is covered in a 28-page catalog prepared by Clayton & Lambert Mfg. Co., Louisville 10, Ky. The Simplenic prefabricated system for forced air residential heating, 700 De-Luxe simplified duct and fittings for forced air heating and gravity pipe and fittings all are described, with component parts pictured and dimensional and other information included.

Catalog No. L-49 contains layouts of four systems, accompanied by descriptive copy and identifying numerals. List prices are shown for available sizes, along with tables listing approximate shipping weights per 100 pieces. Two pages contain exploded views and directions for assembly of duct sections, side rails, reducer or increaser sections and takeoff fittings.

Monogram Products buys Ground for Expansion

PURCHASE of new grounds, facilities and buildings has been announced by Monogram Products Co., Inc., Philadelphia 4, Pa., manufacturers of Lite-Cast combustion chambers. The new acquisition will enable the company to double its production in 1951. Located on Union Street it is near the present plant and office.

Ingersoll Steel adds Six to Heating Division

INGERSOLL STEEL DIV., Borg-Warner Corp., Kalamazoo, Mich., has added personnel to its Heating Equipment division. They are:

W. B. Johnson, formerly assistant advertising manager of the John F. Jelke Div., Lever Bros. Co., Chicago, named assistant advertising manager.

Paul J. Fetzek, formerly sales engineer, Heating Controls Div., Minneapolis-Honeywell Regulator Co., appointed chief sales engineer.

Joseph Bauer, formerly with Duncan Electric Mfg. Co., Lafayette, Ind., new assistant sales engineer.

Lawrence Hodge, formerly with Petroleum Heat & Power Co., will be a sales representative.

James Neall, formerly with Minneapolis-Honeywell Regulator Co., also has been named a sales representative.

H. Forrest Oakes, for the past three years western advertising manager, *Snips* magazine, was designated mid-western sales representative.

Harold Dean, *who covers the Cleveland area for Perfection Stove Co., advertises Superfex furnaces with this bus advertising card, placed in a frame and mounted on the back of his car.*

Install Federal Boilers In three housing Projects

INSTALLATION of its boilers in the 700 home Forest City project in Wantagh, N. Y., has been announced by Federal Boiler Co., Inc., Midland Park, N. J. Three different models were installed in the 1-family homes by Fine & Scholosberg, New York City.

In addition, Joseph Rich, New York City, has installed 122 boilers in the Bristol (Conn.) Housing continuation and B. Seligman has completed installation of 350 Federals in the Westhaven (Conn.) Airport project.

Webster Electric aids Eastern storm Sufferers

THE DEVASTATING storm, with its accompanying high winds, heavy rain and flood tides, that hit the east coast on November 25, put a lot of heating systems out of commission. For those that were affected by flood conditions Webster Electric Co., Racine, Wis.,

There is no substitute for experience

■ Accredited sources indicate that only about 2% of our Manufacturing Corporations have been in business continuously for 65 years. Fitzgibbons is proud to be among those select few.

The experience gained by our sixty-five years in building quality steel boilers is your assurance of top design, top construction, top performance.

The story of how Fitzgibbons has maintained its position and enhanced its reputation during sixty-five years of changing conditions and fuels, is of interest to all boiler users. We invite you to read this story in a new booklet, entitled "Straight Ahead Since 1886." A complimentary copy will be mailed you on request.

65th Anniversary

MOST ECONOMICAL IN FUEL
1886
THE FITZGIBBONS BOILER

1886 - 1951

Visit our booth at the A. S. H. & V. E. Show, January 22-26, Philadelphia, Pa.

Fitzgibbons Boiler Company, Inc.

GENERAL OFFICES: 101 PARK AVENUE, NEW YORK 17, N. Y.

BRANCHES AND REPRESENTATIVES IN PRINCIPAL CITIES

Manufactured at OSWEGO, N. Y.

MEMBER SBI

Reg. U.S. Pat. Off.

afforded quick relief by stopping regular production of Webster Electric transformers and concentrating facilities upon the manufacture of transformers to replace those damaged in water-flooded basements in the New York and New Jersey areas.

Six thousand pounds of replacement transformers were rushed by plane to Newark, N. J., airport where trucks were waiting to deliver them to the most critical areas.

The picture shows Louis Ehrich, service manager for Webster, chatting with pilot Korty of the Flying Tigers Air Line while the transformers are being loaded.

Delco Film features "Motors on Parade"

"MOTORS ON PARADE" a 16 mm. motion picture film available from Delco Products Div., General Motors Corp., Public Relations Dept., Dayton 1, Ohio, was produced to show the importance of the contribution of the electric motor to the home, farm, transportation and industry and to illustrate production of electric motors on a mass basis. It is aimed primarily at Delco's customers and prospects, with secondary audiences including other business firms, school groups, civic and professional organizations.

Parker Fennelly, well-known for his role of Titus Moody on Fred Allen's show, is star and narrator. The film opens with a parade of Delco motors against a background of the Delco plant and continues with illustrations of how electric motors have improved everyday conditions.

The film runs 26 minutes, is furnished without charge.

Minneapolis-Honeywell Has Thermostat Heater Selector

MORE THAN 52,000 slide rule thermostat heater selectors already have been mailed to manufacturers, wholesalers and dealers by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

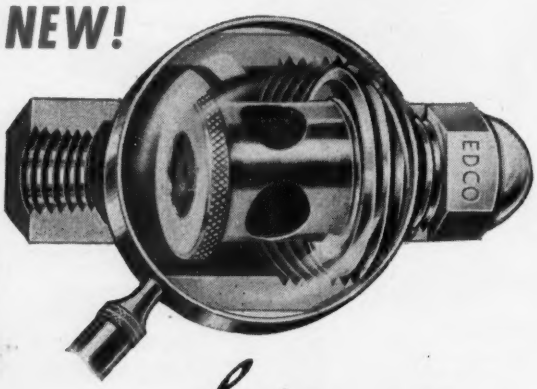
Designed by the company as an aid in choosing the proper heater for every thermostat replacement job, the pocket size rule on one side recommends heaters for use with Honeywell primary controls and heaters for use with controls of other manufacturers on the other side.

CHECK YOUR
Eddington
NEEDS HERE

- ☐ FILTERS
- ☐ NOZZLES
- ☐ VALVES
- ☐ AIR-CONES & STABILIZERS
- ☐ STRAINERS
- ☐ ADAPTORS
- ☐ INSPECTION MIRRORS
- ☐ SERVICEMAN'S NOZZLE KITS

Complete information yours for the asking.

NEW!



Eddington
NOZZLE FILTER
removes final impurities

No more call backs for plugged nozzles! These new filters for all small capacity nozzles eliminate them completely. Fine solid particles are filtered out. Result: a clean nozzle, clean oil, a perfect spray pattern and *maximum combustion efficiency.*

PROTECT YOUR CUSTOMERS
SAVE EXTRA SERVICE CALLS

Eddington's S-252 FILTER

98 sq. in. filter area

Gives maximum protection against oil burner stoppage for more than a heating season.

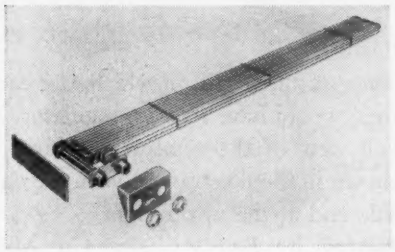
Order Your Supply Today or Write for Literature

EDDINGTON METAL SPECIALTY COMPANY
1050 Czarnecki Street, Eddington, Pa.

New Products

Lindy Perma-Head Tankless water heating Coils

PERMA-Head tankless coils for side outlet installation have been designed to replace smoke box coil installations in steel boilers. The coil is installed through an opening in the front head of the boiler, with the entire coil sub-



merged below the water line inside the steam chamber. This avoids exposing the coils to the corrosive action of flue gases as found in the smoke box installation. A bolted steel plate, with a wired asbestos gasket, covers and closes the coil opening in the boiler, with all hot and cold water piping exposed to view and accessible.

One or two Perma-Head coils may be installed through a single boiler opening, if needed, although capacity may be regulated by making the coil as long as the boiler in which it is installed. The coils may be removed at any time for cleaning or examination.

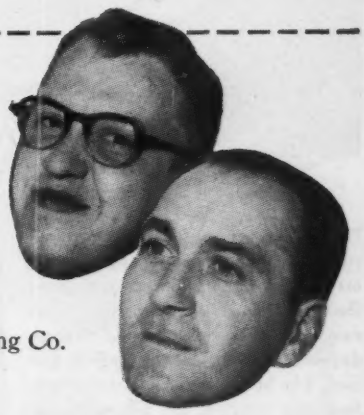
Made by: Lindy Heaters, Inc., 2370 Hoffman St., New York 57, N. Y.

Barclay oil Filter for Two-tank Installations

THE BARCLAY "Two-Tank-T" oil filter has been designed for two-tank installations and is equipped with two inlets and one outlet. The filter is installed at the tanks, eliminates the need for a tee and elbow and can be used on single

It's a Hot Idea- a Real Money Maker!

say these dealers who are telling 'em and selling 'em!



"Chronotherm sales have been *booming* since our organization made it a point to mention the advantages of Chronotherm to each prospective customer!"

Earl and Edgar Lehman
Lehman Heating and Plumbing Co.
Berne, Indiana

"We are telling our customers about the Honeywell Electric Clock Thermostat every time . . . and we are selling over 70% of our jobs with the Electric Clock Thermostat!"

Dale Popp
Gas Heating, Inc.
Lansing, Michigan

"Our servicemen and salesmen explain the savings and the greater comfort with the Honeywell Electric Clock Thermostat . . . and better than 60% of all our installations are now Chronotherm equipped!"

Kenneth Lensing
A. W. Lensing Sons, Inc.
Oak Park, Illinois

MINNEAPOLIS-HONEYWELL REGULATOR CO.
Dept. FH-1-05
Minneapolis 8, Minnesota

Please rush me sales literature about Chronotherm that will help *me* tell 'em and sell 'em, too!

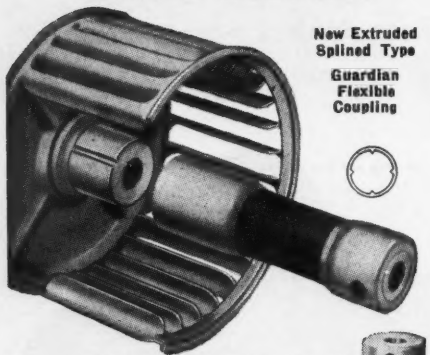
Name _____

Firm Name _____

Address _____

City _____ State _____

86% NOW USE Guardian COUPLINGS



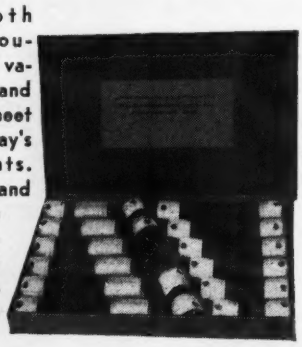
New Extruded Splined Type Guardian Flexible Coupling

Regular set screw type

Yes . . . 86% of the nation's original equipment manufacturers of oil burners in the United States are using Guardian flexible couplings. This enviable position was earned through dependability, quiet operation and long life in millions of installations. Specially treated for oil resistance . . . nothing to lubricate . . . nothing to get out of order . . . easy to install. Guardian Flexible Couplings are available in the regular set-screw type and in the new extruded splined sleeve design, fitting the hub with a close .001 inch tolerance. Both types are supplied in a variety of standard sizes or to your specifications.

COMPLETE ASSORTMENT SERVICE KIT

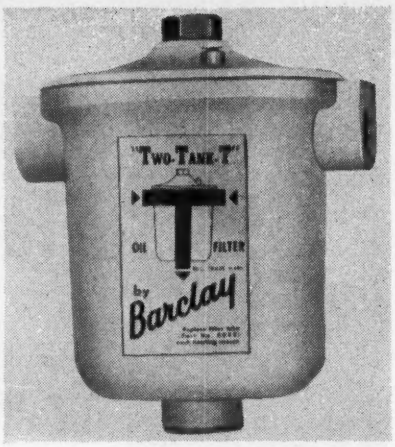
Contains both types of couplings in a variety of sizes and bushings to meet 97% of today's requirements. Keep it filled and be ready to make the extra profits on flexible coupling replacements.



Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-11, 1215 E. Second St., Michigan City, Ind.

Michigan City, Indiana



tank jobs by plugging one inlet. A plug is included in the package. Then, if another tank is added removal of the plug and connecting the nipple from the other tank valve completes the installation.

Models can be furnished with 1/2" inlets and 3/8" IPT outlet or 3/8" inlet and 3/8" IPT outlet. The filter uses a removable, standard size cartridge and is finished with a green body and orange cover.

Made by: Robert Barclay, Inc., 122 N. Peoria St., Chicago 7, Ill.

Steinen introduces new Type of inspection Mirror

A NEW TYPE of collapsible flame inspection mirror has been added to the line of Steinen oilburner accessories. The advantages of the mirror include an extra long handle, which is adjustable to any length from 14" to 33", a double action swivel which permits the mirror to be used from any angle and to fold against the handle when not in use.

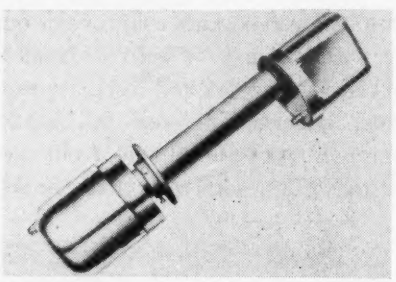
Standard mirror furnished is 4 1/4" in diameter, with an extra oblong one, 2 1/4" x 4 1/4", furnished for use in confined areas. Both are replaceable. Telescoping sections are made of aluminum tubing.

Made by: William Steinen Mfg. Co., 43 Bruen St., Newark 5, N. J.

B & G Comfort Control System Anticipates weather Changes

THE B & G COMFORT CONTROL anticipates changes in outdoor temperature and wind velocities before they are reflected in the indoor temperature. The system is entirely mechanical in operation, containing no bellows or capillary tubes. The regulator extends through the building wall, its outdoor end exposed while a circulation of radiation circuit water flows through the indoor end. A slight amount of the existing temperature of the radiation circuit is conducted to the outdoor end where the heat is dissipated, slower or faster, depending on outdoor wind and temperature conditions. The heat dissipation determines the operation of a comfort control valve, which adds heat to compensate for natural heat losses.

The regulator can be adapted to forced hot water systems using floor or ceiling panels, radiators, convectors or baseboards and may be applied to

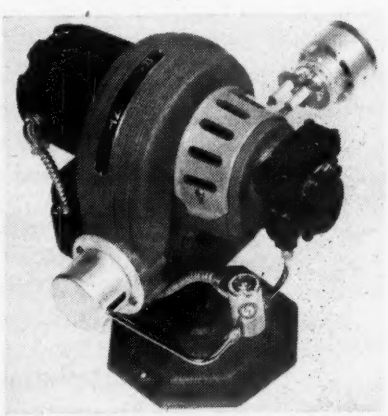


zoned installations, in which case each zone would have its own regulator. A full view of the comfort regulator is shown in the illustration, with the outside end at the upper right.

Made by: Bell & Gossett Co., Morton Grove, Ill.

Radiant Utilities adds Shell Head equipped Models

FIVE MODELS added to the Radiant oilburner line are equipped with Shell designed combustion heads, with gallonage ratings from .5 to 10 gph. The burners, built to conform with Com-



mercial Standard CS-75, are furnished with electrically-operated solenoid valves for positive oil cut-off.

Each burner is equipped with conventional, standard parts and acces-

Daily Tribune

SECOND SECTION

Nu-Way SALES-PROMOTION SET FOR '51

Nu-Way's policy of sound sales and advertising promotion is being continued in 1951. The Nu-Way campaign will do a bigger job—reach more people more times than ever before. They'll know and want Nu-Way quality now and in the years to come. And should shortages and allocation reduce production of Nu-Way Burners, every effort will be made to maintain quality standards.

IF YOU WANT
Dependable Heat
YOU'LL WANT A
Nu-Way
OIL BURNER
AIR
POSITIVE AIR CONTROL with dial setting assures all-over heating efficiency . . . plus 11 other new, improved and exclusive features
NU-WAY gives you economy, efficiency, convenience, cleanliness and smart design—the most for your money!
WHEN YOU CONVERT TO OIL or replace an outmoded burner, see your local heating contractor
Nu-Way CORPORATION
Rock Island, Illinois
"Automatic Oil Heat Exclusively Since 1921"

NATIONAL ADVERTISING

Smart, informative Nu-Way ads like this one will appear regularly in America's leading home publications. Reaching over six million families, this ad will tell simply and clearly why Nu-Way Oil Burners are the best buy when converting to oil or replacing an outmoded burner.

LOCAL PROMOTION

Nu-Way will offer a host of material for local advertising. Attractively designed newspaper ad mats, window streamers, radio spot announcements, colorful four-page folder, an eight-page booklet, etc., are offered to help bring the entire Nu-Way story right to your local market area.

House & Garden

Better Homes and Gardens

House Beautiful

The AMERICAN HOME

MEMBER OF OHI OIL HEAT INSTITUTE OF AMERICA

Nu-Way OIL HEATING EQUIPMENT

THE Nu-Way CORPORATION ROCK ISLAND, ILLINOIS

Sold through Jobbers and Distributors

Also Special Applications for Furnace and Boiler Manufacturers

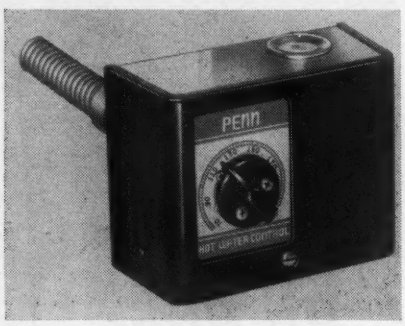
"AUTOMATIC OIL HEAT EXCLUSIVELY SINCE 1921"

sories facilitating replacement and servicing, when needed. Tests, says the manufacturer, have given evidence of economical with both straight run and catalytically cracked fueloils.

Made by: Radiant Utilities Corp., 8817—18th Ave., Brooklyn 14, N. Y.

Penn boiler Control Offered in two Models

A LINE OF Penn hot water immersion controls are described as "trigger-quick" in their response to temperature changes. Designated Penn Series 442 liquid expansion hot water controls, they incorporate a self-compensated



power element, which is unaffected by ambient temperatures, making possible the control's rapid response. Intended for the small, fast-acting hot water boilers the controls feature close differential and easy-to-read calibrated dial on which both cut-in and cut-out points are easily adjusted.

Rated at 7.4 amps. for 115 volts and 5.1 amps. for 230 volts, Series 442 is offered in a high limit model, with contacts closing on temperature rise, and low limit models in which contacts close on temperature drop. Both can be furnished with special immersion element for remote mounting.

Made by: Penn Electric Switch Co., Goshen, Ind.

B & W Allmul Refractory For lining industrial Furnaces

A NEW REFRACTORY for lining high-temperature industrial furnaces, described as being extremely high in quality and performance and available at about one-half the usual price in standard firebrick sizes, has been announced. Allmul, produced from a base of mullite, is also to be offered in the form of grain and ramming mixes.

It is pointed out that Allmul will not melt until heated to more than 3300° F. and when heated to 3000° F. a firebrick of the material will support 1000 lbs. without deforming. Also, when successively heated to 2550° F. and sprayed with cold water a dozen times no cracking or chipping was reported.

Made by: Babcock & Wilcox Co., 85 Liberty St., New York 6, N. Y.

Cyclotherm adds Models To Steam Generator Line

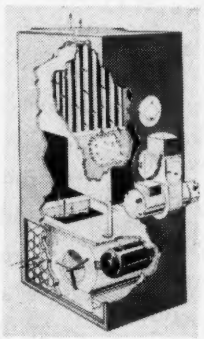
ADDITIONS have been made to the Cyclotherm line of automatic, packaged steam generators. Units may be fired with light or heavy fuel, gas or combination gas and oil operation in pressures from 15 to 200 psi.

Cyclotherm steam generators are fully assembled, piped, wired and test fired before shipment and include an integral burner, safety and operating controls, steam trim, valves. No stack is required, a simple flue vent to conduct exhaust gases outside the building is sufficient, where local regulations permit it. Operation is dependent only upon connection to water, steam, fuel and electric sources.

Made by: Cyclotherm Corp., Oswego, N. Y.

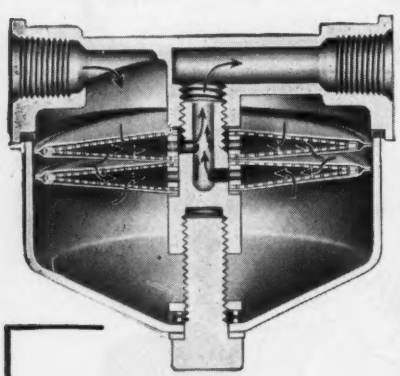
Turb-O-Tube adds Hi-Boy furnace Unit

THE HI-BOY oilfired furnace unit added to the Turb-O-Tube line has been designed for use in basementless homes. It occupies a minimum of floor space, slightly more than 3.5 sq. ft., measuring 20″ x 25″ and is only 57″ high. It is fired with a flange-type oilburner.



Design was worked out to afford increased accessibility of parts, low stack temperature and high operating efficiency. Cold air returns may be located on any side or in the base of the furnace. Heavy gauge all steel construction is employed on these factory-assembled models.

Made by: Turb-O-Tube Furnace, Inc., 106 Kingsley St., Buffalo, N. Y.



CLEAN FUEL OIL THE SPARKLER WAY

. . . means less burner trouble

. . . fewer call-backs for you

Boost your profits, keep your customers happy, and save needless work for yourself by installing a Sparkler Fuel Oil Filter on every oil burner you service.

The Sparkler Model OB is a *positive* filter because oil cannot by-pass the filtering element. When oil reaches the burner nozzle, you know that all sediment (even micro-size particles) and water have been removed. The burner works more efficiently and your customers need not worry about emergency calls.

And whenever you service a Sparkler-equipped burner, don't take chances by leaving the old discs in the unit. Install a new cartridge. It takes less than a minute, gives you a profit-making sale and protects your customer.

There's a size for every installation

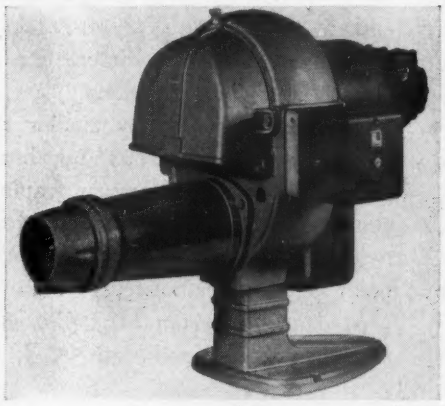
Write for complete details

SPARKLER horizontal plate FILTERS

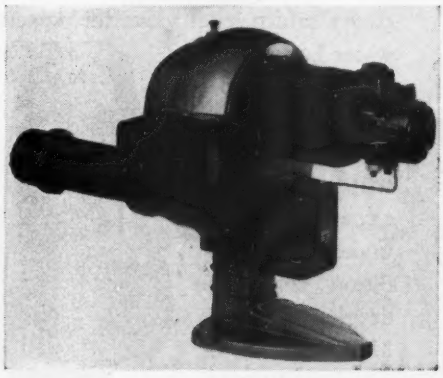
SPARKLER MANUFACTURING CO., Mundelein, Illinois

Manufacturers of precision filtration equipment for more than a quarter of a century.

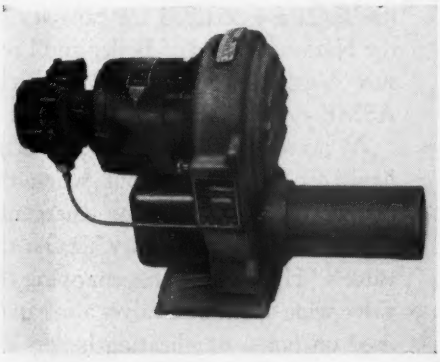
SERIES OB
For Conversion Application



SERIES M
For Conversion Application



SERIES L
For Conversion Application



SERIES OC
Companion to the Plate Mounted Series OCU — but adapted for Conversion Applications

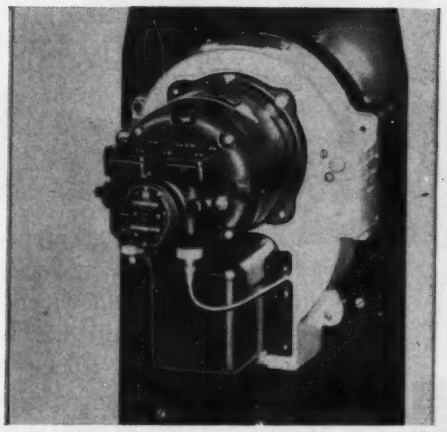
Sales of Beckett COMMODORE Burners in 1950 have doubled over 1949, which was an all time high to that time.

This continued success of the famous family of Beckett Oil Burners is an endorsement of their dependability, performance and engineering skill.

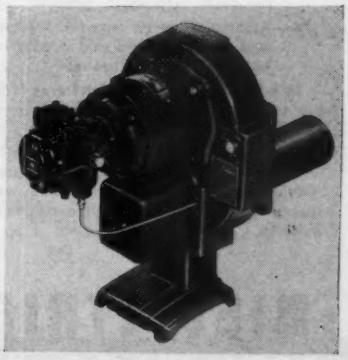
For Furnace or Boiler *Unit Applications* . . . or for *Conversion Applications* in any type of heating system, requiring an oil rate of from .7 to 25 gallons per hour, there is no equal to a Beckett engineered Burner.

R. W. BECKETT CORPORATION

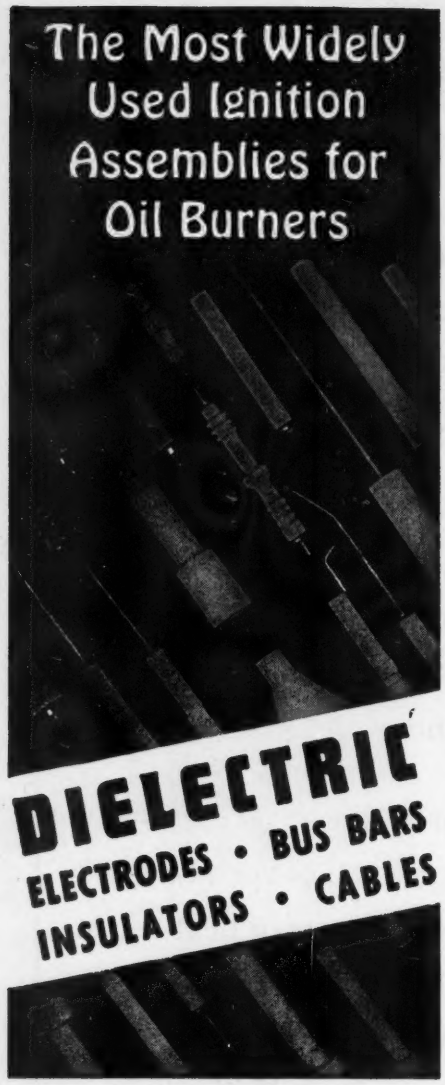
ELYRIA, OHIO



SERIES OCU
Plate Mounted Burners for "Manufacturers' Unit" Applications



SERIES ON
Similar to the O C and O C U except with a greater capacity



STANDARD AND SPECIAL ASSEMBLIES IN ALL TYPES AND LENGTHS

The majority of oil burners being installed or serviced today are equipped with Dielectric electrode assemblies . . . and for good reason—

1—They are made with the finest steatite insulators and electrode tips . . . in any designs to meet specific burner requirements.

2—They have all Underwriters Laboratories, Inc., approvals.

3—Standard assemblies are available for quick delivery.

4—Assemblies with special insulator and electrode sizes and shapes can be made on short notice.

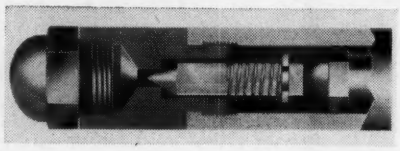
In addition, Dielectric high tension cable assemblies and Dielectric bus bars for transformer and electrode layouts are available for any practical burner hook-up.

Let Dielectric's complete, prompt engineering cooperation help improve your burner and expedite production. Write for bulletin.

DIELECTRIC
PRODUCTS CO., Inc.
125 Virginia Ave., Jersey City 5, N. J.
Boston • Philadelphia • Des Moines

Electrol Oilburners have Drip-Eliminator Device

STANDARD EQUIPMENT on all Electrol oilburners is a Drip-Eliminator to stop after-drip and fouling of the nozzle. The device delays fuel supply on starting until correct pressure, air supply and spark have been established and



on shut-down the valve, diaphragm operated, provides positive cut-off at the nozzle.

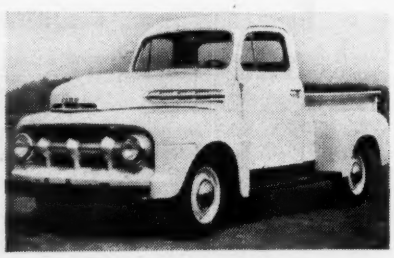
It is normally set to open when the pump has built up a pressure exceeding 50 lbs. and as the burner shuts down the cut-off valve closes tightly as oil pressure drops. The entire assembly can be removed wtihout dismantling any other part of the burner. It is located directly behind the burner nozzle.

Made by: Electrol Burner Mfg. Co., Rutherford, N. J.

Ford Trucks for 1951 Feature major Improvements

MORE THAN 180 models are included in the line of Ford trucks for 1951, featuring power pilot carburetion-ignition control on all engines. This system provides metering and firing of the correct amount of fuel under varying loads without spark knock. The line includes both light and heavy-duty models, with redesigned cab and front ends for more rugged appearance.

Other features include an enlarged



rear window, new instrument panel, weather sealing on doors and floor pan area and dual windshield wipers. A steering column gearshift has been added on F-1 light-duty trucks, with the three-speed transmission redesigned for more rugged loads. All engines have chrome top piston rings, autothermic expansion control pistons and new high-lift camshafts. A "5-Star Extra" cab, with soundproofing, roof insulation, full-width foam rubber padded seat and additional accessories and trim, is optional equipment.

Made by: Ford Motor Co., 3426 Schaefer Rd., Dearborn, Mich.

Heyco strain relief Bushing Adapter for junction Boxes

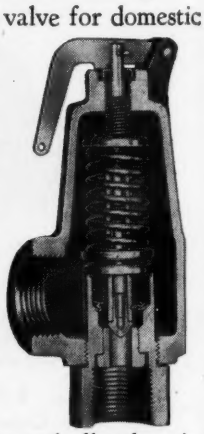
HEYCO strain relief bushing adapters fit into standard knockout-box holes, designed to replace connectors and other fittings. Adapters, inserted without screws or bolts, provide a tight closure and are available with various size holes to hold any of the complete line of bushings the company offers.

The bushings securely anchor the wire to the knock-out-box and absorb pull, push and torque, prevent fraying, eliminate tieing of the wire and afford nylon insulation for the wire at the point of entrance into the box.

Made by: Heyman Mfg. Co., 100 Michigan Ave., Kenilworth, N. J.

Safety relief valve for Water Heaters and Tanks

MCDONNELL & MILLER'S new large capacity safety relief valve for domestic water heaters and tanks has been designed for systems needing a valve that will prevent excess pressure under every condition that can develop. Series 3345 - 33150 is rated in Btu capacity, its capacity to dissipate heat, and all valves in the series are certified for capacity by the National Board of Boiler and Pressure Vessel Inspectors and bear the ASME symbol.



At normal temperature water is relieved at a low rate, but when the temperature rises into the emergency zone the increased velocity acts on the valve's "Hydrolift" ring, snapping the valve wide open. The valves also can be used on hot water heating boilers designed for higher working pressures.

The valve needle is stainless steel, hardened and precision ground to a polished finish, with a machined and

on conversion burners
for winter replacements

call Baltimore MUlberry 8585

QUIET MAY
OIL BURNER

OHI **MAY OIL BURNER division of Gerotor May Corp., Baltimore 3, Md.**

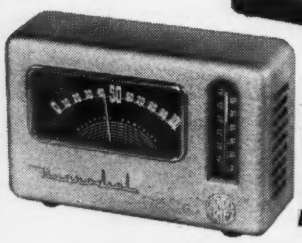
"Prove the Need and the Sale Takes Care of Itself!"

FOR ACCURATE INFORMATION ON RELATIVE HUMIDITY AND TEMPERATURE . . . RELY ON BENDIX FRIEZ

When your customers see the facts and figures, your selling job virtually disappears. With precision-made, dependable Bendix-Friez instruments you can demonstrate with on-the-spot readings or recordings exactly how much and where your customers need temperature and humidity control for maximum comfort in the home, maximum efficiency in industrial operations. Bendix-Friez instruments are built to U. S. Weather Bureau standards by the world's oldest and largest manufacturer of fine meteorological equipment. Write for complete information.

BENDIX-FRIEZ
MODEL 160
Portable Humidity and Temperature Recorder

3" x 5" charts, 10 or 30 hour records. Modern design . . . handy for small space and difficult locations . . . built to meet unusual conditions.



BENDIX-FRIEZ
Hygrodial
Precision Humidity and Temperature Indicator

Hair-operated and calibrated to professional standards of accuracy by the maker of the world's finest weather instruments. Handsome, modern case—4" high, 5½" wide, 1⅝" deep—desk or wall mounting.

FRIEZ INSTRUMENT DIVISION of
1416 Taylor Avenue
Baltimore 4, Maryland
Bendix AVIATION CORPORATION
Export Sales: Bendix International Division
72 Fifth Avenue, New York 11, N.Y.

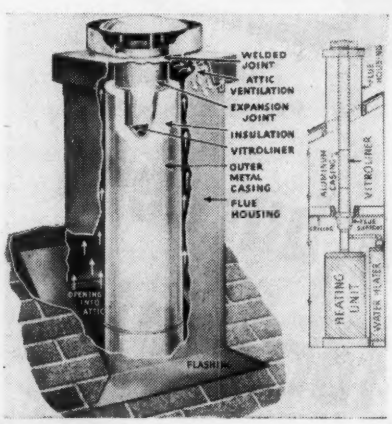
reamed stainless steel seat. All working parts are corrosion resistant. The easy-to-lift testing lever operates independently of the automatic action. Opening pressures are 45, 75, 100, 150 psi; all inlet connections are ¾", outlet connections are 1".

Made by: McDonnell & Miller, Inc., 3500 N. Spaulding Ave., Chicago 18, Ill.

Improved rain Cap used On Vitroliner Chimney

AN IMPROVED type rain cap and housing top has been added to the prefabricated Vitroliner type "E" chimney. The rain cap with a baffle ring is welded to the housing top and acts as a wind baffle and prevents rain from entering the flue in any manner. As seen from ground level the top is pleasing to the eye and blends with all types of architectural design.

Vitroliner chimneys are built around a vitreous enameled metal flue liner, which is encased in a seamless tube of



high temperature resistant asbestos. A round aluminum pipe forms the external cover with a flue support at the ceiling anchored with four metal straps nailed to the joints. The roof housing is nailed to roof and holds the flue and top in position. Type "E" is offered for use with all fuels.

Made by: Condensation Engineering Corp., 3511 W. Potomac Ave., Chicago 51, Ill.

John Crane insoluble Plastic lead seal Compound

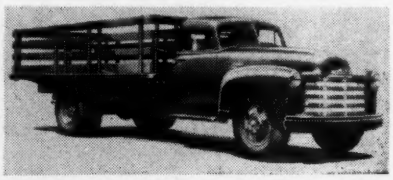
PLASTIC LEAD SEAL, insoluble pipe joint and gasket compound is recommended for temperatures up to 500° F. and pressures up to 6,000 lbs. psi. It does not harden, but a thin layer of the material fills in minute surface imperfections and resists washing out, many times eliminating the necessity for gaskets on reasonably flat surfaces.

Plastic Lead Seal is insoluble in all petroleum products, steam, water and LP gases. When applied, it lubricates threads, permitting them to be tightened smoothly and easily, and insures a joint that is easy to take apart, if necessary.

Made by: Crane Packing Co., 1800 Cuyler Ave., Chicago, Ill.

New Chevrolet Trucks Offer variety of Sizes

A WIDE VARIETY of sizes, available in 10 wheelbases, feature the new line of Chevrolet trucks. Gross vehicle weights range from 4,000 to 16,000 lbs., with the 4100 and 4000 series rated higher through changes in the front axle,



springs and tire sizes. Maximum gross vehicle weights have been raised from 12,500 to 14,000 lbs. Maximum GVW of series 6100 to 6400 has been upped to 14,000 lbs. also.

Hyldraulic braking principle has been retained, with new design. In addition to more braking surface, brakes are self-energizing, require less pedal pressure and feature lining bonded to brake shoes. Heavy-duty trucks have "Twin-Action" rear brakes and all models are equipped with improved design cabs. Seat assemblies have two layers of springs, reducing vibration, while cab side windows introduce adjustable ventipanes. Two engines, the Loadmaster of 105 hp. and the Thriftmaster developing 92 hp. are available.

Made by: Chevrolet Motor Div., General Motors Corp., General Motors Bldg., Detroit 2, Mich.

Oilfiring used in first Fridg-A-Fire Installation

THE FIRST INSTALLATION of two twin unit Fridg-A-Fire heater-coolers has been made in a ten-room ranch type home built by Guy Roper in St. Louis

OILHEATING BOOKS

OILHEATING SNAGS

This book gives the solutions to many of the Everyday Snags that annoy you in installation and service. We've been working on them for years. They are all simple and practical answers to the most common goat-getters on jobs. It's an 8½ by 11 inch book of 64-pages.

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HEADING OFF TROUBLE IN DOMESTIC OILHEATING

This book contains articles about the most important precautions to take in installations and service and thereby cut down the number of service calls. The selection is about those things which give the greatest amount of future trouble for service men. A highly practical compilation of pieces from FUELOIL & OIL HEAT. It's a 64-page book 8½ by 11 inches.

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INSTALLING THE DOMESTIC OILBURNER

This is the first practical guide on oilburner installation. It contains the most significant articles from FUELOIL & OIL HEAT that cover all phases of installation step by step. It is 8½ by 11 inches and contains 64 pages. Illustrated with numerous diagrams, charts and photos.

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LOW PRESSURE BURNERS

Only book other than manufacturers' manuals that gives a full picture of low pressure burner principles of operation and construction—Winkler, Oil-O-Matic, G. E., Hart, Hev-E-Oil. Skeletonized diagram of each make of burner makes them more understandable. The new booklet is 8½ by 11 inches, contains 20 pages.

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HEATING PUBLISHERS, INC.

232 Madison Ave., New York, 16

VARIOUS MODELS
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HomEase is the Burner You Can Easily Sell!

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The HomEase Flame Shape Control that insures a high CO_2 by fitting the flame to the individual firebox.

2. FIRE-STAT

The HomEase Control that meters an extra amount of air to the flame on cold starts to prevent sooting and smoking.

☆ HomEase Oil Burners let dealers *keep* their profits. Minimum of attention and less service calls make for satisfied customers. HomEase does have an important place in your line. Get the *facts* and you will see why so many HomEase Burners have required so few troublesome service calls. HomEase Products Company, Paterson 3, New Jersey.

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CLASS 50 LIGHT OIL PUMPS
Direct Drive For
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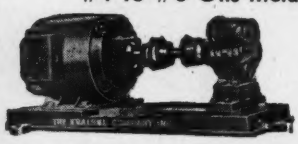

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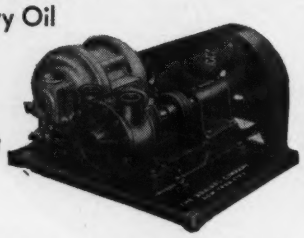
CLASS 60 HEAVY OIL PUMPS
Reduction Drive
For Heavy Oil

Ask For Bulletin No. A-1193



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Standard and High Pressure
Baskets instantly and easily changed
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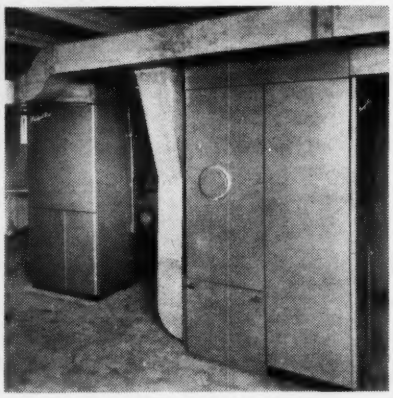
CLASS 80 TRI-ROL PUMPS
Interchangeable Service
Both Light and Heavy Oils
Tank Truck and Bulk Station

Ask For Bulletin No. A-1366

KRAISSL CO. Inc.
295 WILLIAMS AVE., HACKENSACK, N. J.

County, Mo. The heating half of each unit is an oilburning furnace. The units provide year-'round air conditioning, with one of the units in the Roper home heating and cooling the bedroom areas, the other serving the daytime living areas. Twenty supply branches and twelve return air inlets were provided, with careful planning and the compactness of the units ad-



vanced as the reason for the relatively small space needed. With the zoned method one unit can be used by itself in emergencies and the bedrooms can be kept at lower temperatures than the rest of the house.

The smaller of the two Fridg-A-Fire's delivers 150,000 Btu/hr for heating and provides a 3-ton cooling effect; the larger unit has a heating output of 150,000 Btu/hr, 5 tons of cooling. The heating portions use Oil-A-Fire gun type oilburners; the cooling portions, compressor-type refrigeration units. For smaller homes the manufacturer points out a single Fridg-A-Fire will carry the load.

Made by: Automatic Firing Corp., 4417 Oleatha Ave., St. Louis 5, Mo.

Fill pipe Seal and Barrel Vent are Water-tight

E. Z. FILL PIPE SEAL and self-venting barrel seal have been announced to provide double sealing against damage from water seeping into storage tanks. The fill-pipe seal, designed for use with underground tanks, is simply pushed into the pipe, twisted and sealed. It fits so that the lawn may be mowed over it without damaging the seal and is offered as a remedy to correct difficulties encountered with worn-out fill-pipe threads.

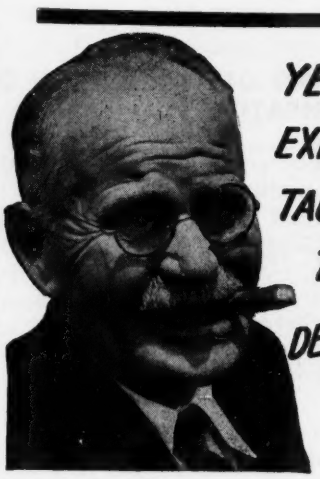
The barrel vent is of similar construction and is designed to seal and vent fueloil barrels at the same time.

Made by: Work Mfg. Co., 2304 N. E. 54th Ave., Portland, Ore.

Barber-Colman Grille with Volume Control and Deflectrol

DUCT TAKE-OFFS can be eliminated with a new Barber-Colman combined grille, volume control and deflecting vane. The engineered air deflecting vanes produce uniform flow across the grille face, minimize duct turbulence and turning losses.

To facilitate system balance, the



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These trustworthy gauges eliminate guess work and offer convenient remote readings... as well as assuring greater protection against overflowing oil tanks. Consequently, Levelometer tank gauges save service calls and offer greater customer satisfaction all around. Little wonder, Levelometer is the choice of dealers who insist upon dependable oil tank gauges.

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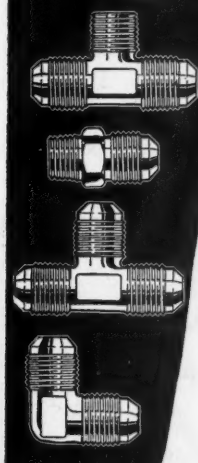

DIRECT CONNECTION between oil tank or drum and tube line to heater or furnace, has given this NEW, specially designed Leggitt Oil Tank Valve soaring sales. It is something much needed in thousands of homes to eliminate the usual leaky "make-shift" way of connecting heater to tank. This ALL BRASS VALVE with brass seat is of finest quality in construction and material and is a very saleable and fast moving item.

Always look to Leggitt for the newest in valves, filters, fittings, etc. — the BEST in BRASS at the MOST REASONABLE PRICES! Whether your order is large or small it will receive the same prompt and careful attention.

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Write for catalog and prices.

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548 Burleson
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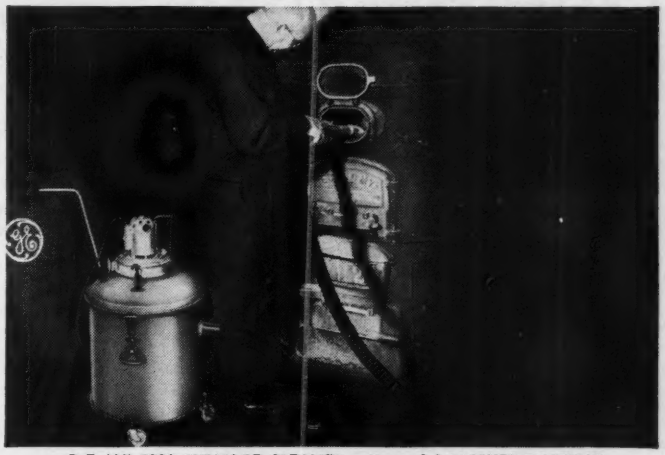
S. H. LEGGITT CO.
MARSHALL MICHIGAN

Here's Modern Equipment to

MAKE FURNACE-CLEANING CALLS

PAY OFF!

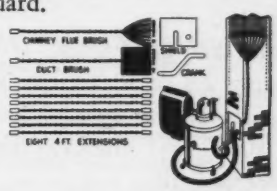


G-E AVI-F908 FURNACE CLEANER a Powerful BLOWER-SUCTION Machine—engineered to do the job Quickly, Thoroughly and at Low Cost

This easy-to-handle, high-vacuum cleaner (1 full h. p. AC-DC; weight only 51 lbs.) makes a hit with clean-up crews . . . steps up their productiveness . . . leaves boilers and cellars cleaner.

Power unit is readily removed from tank and converted into a powerful BLOWER, by removing bag and substituting special coupling and guard.

G-E CHIMNEY-CLEANING AND AIR-DUCT EQUIPMENT For Use with Model AVI-F908 ▶ Furnace Cleaner



Another ingenious contribution to speed clean-up jobs is the G-E Chimney-Cleaning Set. This equipment brings down the soot and gets it into the machine with a minimum of muss and fuss.

Revolving handle and vacuum hose fit through special shield which keeps falling soot from escaping into the cellar. As shown, set includes Shield, Crank, Chimney Flue Brush, Duct Brush and eight 4 ft. extensions.

YOUR FIRST STEP **toward Lower Furnace Cleaning Costs and MORE Satisfied Customers is taken when you mail coupon below for this new G-E folder**

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Certainly, I'm interested in more efficient Furnace Cleaning Equipment. Send the G-E Folder by return mail.

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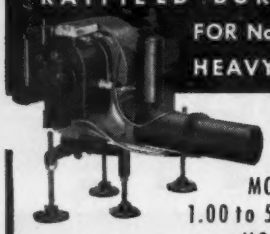
RAYFIELD BURNERS
FOR No. 4 or No. 5
HEAVY OILS



MODEL JR.
1.00 to 5.00 GALS./HR.
MODEL D4
3.00 to 12.00 GALS./HR.

1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

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HEAT RECLAIMERS
1. Low in Price—Automatic—Easy Installation
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3. For use with Coal, Gas, Oil or Wood
4. Increases output of ANY gravity warm air furnace
5. Heats Basements, Play Rooms, Garages, etc.
6. The hotter the stack—the more heat reclaimed
7. Saves wasted heat now going up the chimney

PATENTED COMBUSTION
HEAD OIL
BURNERS

for CATALYTIC
OILS TO
#3 GRADE
2 MODELS
1.00 to 3.00 GALS./HR. CAPACITY

1. Amazing Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

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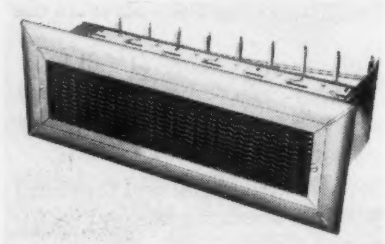
volume control adjuster is accessible from the grille face, yet hidden and tamper-proof. Supply air deflection can be adjusted vertically or horizontally and diffusing lugs on the grille pro-

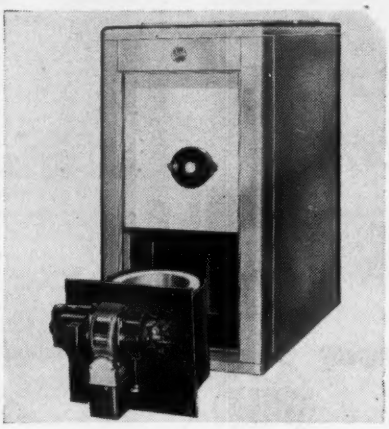


mote thorough mixing of room and supply air for draft elimination and rapid temperature equalization.

Made by: Barber-Colman Co., Rockford, Ill.

Thermo-Products oilfired Furnace in three Sizes

A RECENT ADDITION to the Thermo-Products line of automatic oilfired heating equipment is a winter air conditioning unit with a gun type burner offered in three sizes from 100,000 to 200,000 Btu/hr output at the register. Other sizes are to be added later.



The unit offers automatic temperature control, forced air circulation, air filtration, humidification and automatic firing. A feature is the burner drawer assembly which makes the combustion chamber readily accessible. The unit's solid base pan prevents basement dirt from entering the heating system.

Made by: Thermo-Products, Inc., North Judson, Ind.

Dry air Motor cooling System For National vacuum Cleaner

NATIONAL SUPER SERVICE'S model BP is a multi-stage heavy-duty suction cleaner, adaptable for both wet and dry pickup. Dry air only is used for cooling the continuous rated motor, with free atmospheric air drawn into the motor housing, independent of and sealed off from the suction air.

Motor rating on the cleaner is 1 hp, developing maximum water lift of 56" at a maximum temperature rise of 38° C. on continuous operation.

Made by: National Super Service Co., Inc., 1951 North 12th St., Toledo 2, Ohio.

Perfection announces Model 3171 Heater

A NEW CONSOLE TYPE oil space heater has been introduced by Perfection Stove. Model 3171, with a rated output of 70,800 Btu/hr, has a porcelain-enameled 1 gal. humidifier, combina-

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Give Your Customers More Fuel "Mileage"

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Heating plants in continuous use need occasional cleaning and very frequently other services as well. Cleaning often reveals need for new plants.

The Super Red Streak Furnace Cleaner does the job easily and quickly, no matter what type of furnace. Super cleaning makes fuel go farther, gives more heat.

Chimney cleaning tools are standard equipment. At a small additional cost, a Super Special Oil Soot Filter Bag is provided which makes it possible to clean oil burning furnaces without troublesome back pressure of clogged bag. Efficient suction tube scrapers are available for fire-tube boilers.

Get close to the home owner's heating problem. Our FREE PLAN BOOK tells how to operate a profitable, easy, furnace cleaning service. Try our 5-day free trial. Prove for yourself the earning power of the Super. Ask your supplies distributor or write for complete details.

National Super Service Co., Inc.
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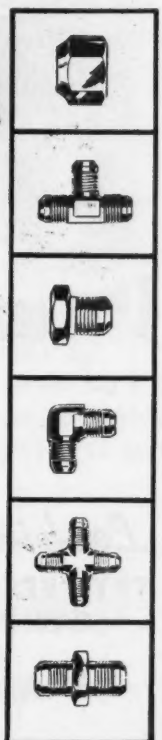
SUPER SUCTION®
SINCE 1911
"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

For a

FITTING CONNECTION

of long standing

select MADDEN BRASS



For trouble-free service and ease of installation install Madden commercial and industrial fittings and flare nuts. They are precision machined of forged brass and extruded rods.

Write for free catalog of the complete Madden fitting and accessory line.

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Retort Cement

Sets A Standard of Excellence For The Heating Industry

Here is a cement, developed by Pecora, to specifically meet the exacting requirements of installations that must cope with wide temperature extremes... a practically indestructible binding material that is absolutely fire-proof... resistant to acids and corrosion... burns hard without cracking and is completely odorless... non-porous and not subject to air leakage. Pecora Asbestos Retort Cement is the ideal material for mounting furnaces, heaters, stoves... for cementing joints exposed to intense heat. Iron will melt where this cement will stand!

A Superior Product Designed For Superior Workmanship

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A heat-resistant cement for sealing or joining of parts subjected to high temperatures.

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A durable, dependable sealing compound that will maintain an air-tight seal despite vibration.

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Manufacturers of Caulking Compounds, Roof Coatings, Maintenance Finishes, Industrial Enamels
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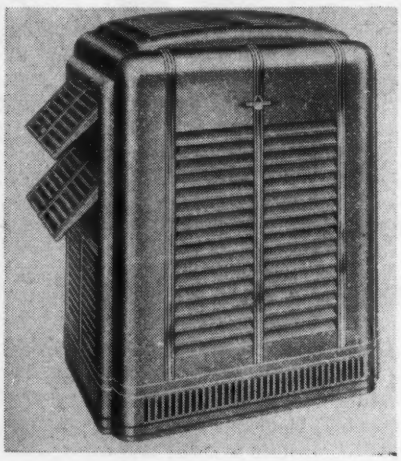


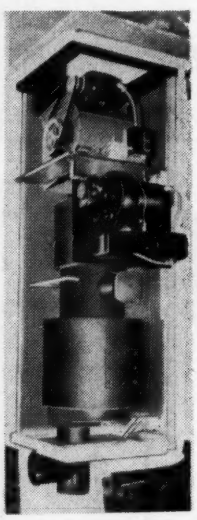
tion oil control and constant level valve, louvered panel for radiant heat and a removable top grille. Heater casing also is porcelain-enameled.

A blower to circulate heated air across the floor air is standard equipment, while a 5-gal. fixed fuel tank is available as optional equipment.

Made by: Perfection Stove Co., 7609 Platt Ave., Cleveland 4, Ohio.

Conco announces Additions To its line of Furnace Units

ADDITIONS have been made to both Conco's Ranchief and Town & Country lines of oil and gasfired furnaces. The Ranchief Counterflow model will be offered with a pressure oilburner, as well as with vaporizing oil and gas. A standard Ranchief Hi-Boy, added to the line has a conventional bottom inlet, top discharge, is available with a pressure or vaporizing oilburner, as well as a gas burner. It incorporates all Ranchief features of compactness, measuring 22" x 22", reduced clearance, efficiency, styling and white enamel finish. Bonnet output is 70,000 Btu and all models are wired, packaged and fire-tested at the factory.



The new model in the Town and Country line is a presure oilfired gravity furnace, delivering 82,000 Btu at the bonnet. In common with other models in this line, it is designed for easy installation and economical operation. It is fired with the Conco Magic Spray pressure burner is Bonderized for permanence and also is fire-tested before shipment.

Made by: Conco Engineering Works, Mendota, Ill.

Flame failure Safeguards For gas-oil conversion Burners

A FIREYE system has been announced to provide flame failure safeguards and controls on gas-oil conversion burners. The system, consisting of electronic flame rod, photoelectric scanner and

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We will pay you $2.00 each for the following FUEL UNITS
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THIS OFFER GOOD FOR 30 DAYS ONLY

ALBANY AUTOMATIC SUPPLY CO. INC.
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TRY "KEK" on that TOUGH JOB
GET ANY BOILER CLEAN
SAFELY and SURELY

REPAIR that LEAKY BOILER
with the
NEW
"REP" BOILER REPAIR
Successor to Kenite Boiler Repair
PERMANENT — ODORLESS

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Write for FREE BULLETINS

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CROWN your Installation with THE *GALONGAGE!*

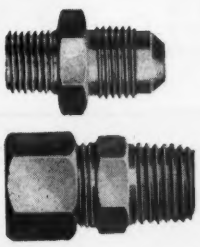
Outstanding in its field, *Galongage* design, construction and appearance does credit to the finest heating installation. Because *Galongage* measures in gallons... has an easy-to-read magnifying lens... requires only 4-inch head clearance... comes fully assembled... is approved by Underwriters' Laboratory.

When ordering, specify depth of tank and size of opening.

APPLIED MECHANICS COMPANY
167 OLIVER STREET, BOSTON 10, MASSACHUSETTS

IMMEDIATE DELIVERY

Standard & Special Types of



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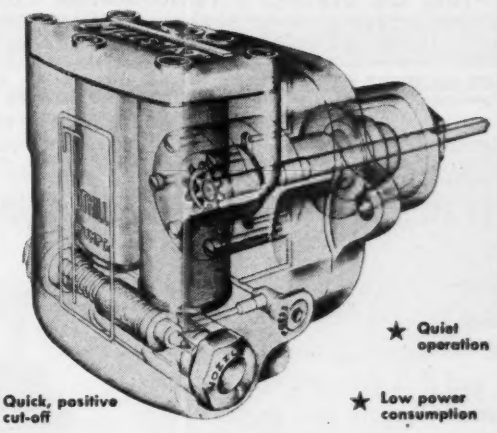

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Proved by thousands already in service, this perfected Tuthill Fuelstat sets the pace for dependable pumping equipment. All working parts are made of cast iron and steel with high grade (99.99+% pure) zinc alloy body to obtain the ultimate in toughness, durability, corrosion resistance and leak-free performance.

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SAVE—1 to 4c per gallon-hour, off the price of a #3 oil.
INCREASES—the BTU heat values by 10-20% in the furnace.
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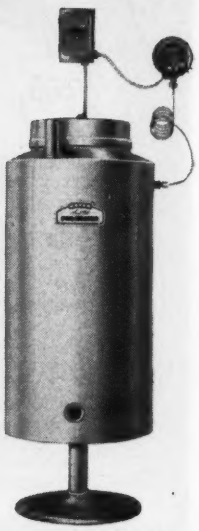

All this at the low operating cost of 1/10th to 2/10ths of a penny per gallon hour. Completely automatic.

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Ask for details, etc. on our famous BOYAR FUELOIL PREHEATER—now in our FOURTH year—and send us the name of the dealer who installed your burners. We will have him submit a MONEY SAVING proposal TO YOU "guaranteeing profitable satisfaction OR ELSE," in spite of skyrocketing prices and lowered qualities of your fueloil.

FUEL OIL DEALERS ATTENTION—Your CUSTOMERS ALSO are reading our advertising and writing us direct about our BOYAR PREHEATER "package" because "something MUST BE DONE and quickly" else they lose money, and THEY EXPECT *YOUR* HELP.

YOU DO WANT TO HELP THEM, we are sure. Better write us at once for full details on BOYAR PREHEATER "package" so that you can submit YOUR CUSTOMERS a proposal that will

MAKE YOUR CUSTOMERS VERY, VERY HAPPY IN 1951

EXCLUSIVE dealerships open in certain territories. Better get YOUR NAME REGISTERED covering the fastest moving NEW BUSINESS AGENCY in fueloil CONSERVATION in 1951. Our Advertising will MAKE IT SO—no seasons for this NEW "PACKAGE" economy unit.

CAPITAL ENGINEERING & MFG. CORPORATION, 5839 S. Ashland Ave., Chicago 36, U.S.A.

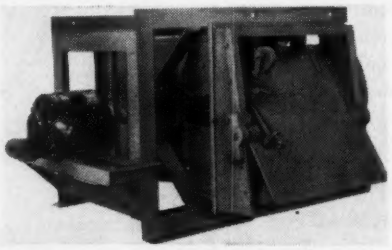
programming control, supervises the pilot gas flame and the main oil flame.

The flame rod "feels" the gas pilot flame and if it does not ignite signals this condition to the programming control, shutting down the burner. With proper pilot ignition the main fuel valve opens. The photoelectric scanner, incorporating both phototube and amplifier, is constructed to withstand relatively high ambient temperatures and humidity. Accurate settings of both fuel valve delay and post ignition periods are provided by the programming control.

Made by: Combustion Control Corp., 77 Broadway, Cambridge 42, Mass.

Wing draft Inducer With integral Barometric

A DRAFT INDUCER with integral barometric for more precise control of furnace draft has been announced. Such units are equipped with variable speed motors and can be equipped with integral barometric dampers. A feature of the barometric is a hinged explosion gate to relieve excessive pressures that may develop in the breeching.



Made by: L. J. Wing Mfg. Co., Linden, N. J.

American-Standard cooling Unit For use with winter Conditioner

ANNOUNCEMENT has been made of the development of an American-Standard cooling unit to be used in conjunction with a regular winter air conditioner and connected to its ducts. The cooling unit is hermetically sealed and tested at the factory, with wide-flanged inlet and outlet duct connections located on top of its metal jacket.

Air is cleaned by two large filters, with compression mufflers built-in and all moving parts cushion-mounted for quiet operation. The unit is intended for installation in new homes as well as for modernizing work.

During the winter the heating system operates in the normal manner, a damper by-passing the air around the cooling coils. In the summer, the heating unit is turned off except for the regular blower, which is used to distribute cooled and dehumidified air through the duct system.

Made by: American Radiator & Standard Sanitary Corp., Manufacturers Bldg., Pittsburgh 22, Pa.

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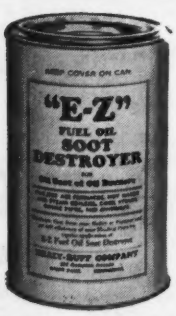
Soot Destroyer



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No. 1 Pkg. approx. 1 lb. . . . List $1.00 ea.
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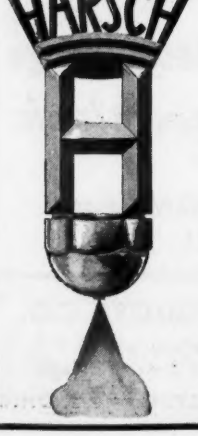

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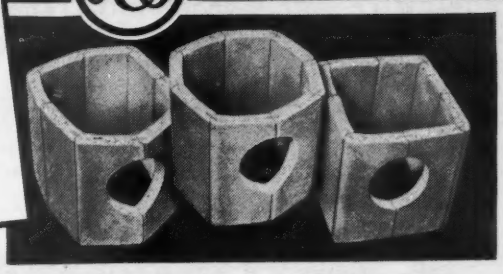

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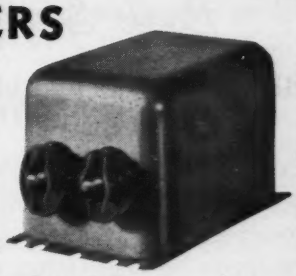

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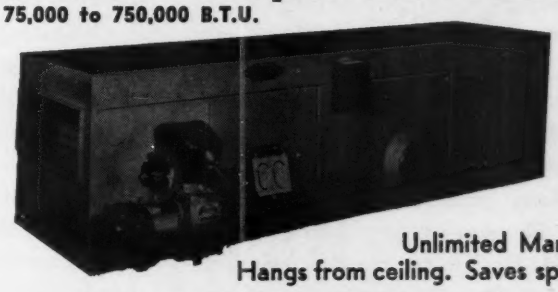

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Book Shelf

Blanding's Way tells of Adventure with Oilburner

FUELOIL & OIL HEAT's readers are not accustomed to having modern fiction reviewed in its columns, but this is an exception because it gives the industry a chance—from our quotes from this excellent book—to see its beloved product, the oilburner, through the eyes of a consumer and owner who is a highly educated, introverted, yet sophisticated advertising copy man, with a neurosis that still has us puzzled. Mr. Blandings, of course, is a fictitious character, created by Eric Hodgins, who was a journalist before he became an author, his activities having included a stint in the *Time-Life-Fortune* organization as an editor.

Many readers will remember his first Blandings book, "Mr. Blandings Builds His Dream House," which described Blandings' hilarious experiences when, through his own inexperience and the blandishments of a real estate man, he bought a tumble-down house in suburban Connecticut, and though intending to build a modest home for his family (wife and two daughters), ended up with a $70,000 mansion-estate.

There was no hint, in the earlier book, that Mr. Blandings knew anything about oilburners. Since he had previously lived in a nice apartment, a short jump from his advertising agency office in New York, he could not, poor man, be expected to know much about them. But in the interval between books, during which he became a thoroughly indoctrinated homeowner, his acquaintance with home comfort equipment became enlarged.

Oilheating men will be particularly interested in the first chapter of the book. Mr. Blandings and his attractive wife, Muriel, were seated in their lovely, expensive living room, he reading a book on psychology and she sewing. They were obviously a little bored with each other that chilly evening. All husbands will recognize the situation and sympathize a little with him when, while he was immersed in the deep thoughts produced by his book, in a soothing silence, he dimly heard her:

"What went click?" asked Mrs. Blandings.

"What?" said Mr. Blandings.

"What went click?" said Mrs. Blandings.

"I didn't hear anything go click," said Mr. Blandings.

"I did," said Mrs. Blandings. "I distinctly heard something go—"

"You're always hearing something go click," said Mr. Blandings.

"I'm not always doing anything of the sort," said Mrs. Blandings.

At that instant, Mr. Blandings heard something go click. He braced himself for a triumphant riposte from his wife, but to his surprise she gave no sign, and she did not raise her eyes from the sweater on which she was sewing a name tape. There was a silence.

"Metal contracts in the cold," said Mr. Blandings after a little, anxious to re-establish in his own mind the principles of physics that had eluded him in the condensation of water vapor on cold surfaces. "Maybe it was a pipe or a duct somewhere."

"Maybe what was a pipe or a duct?"

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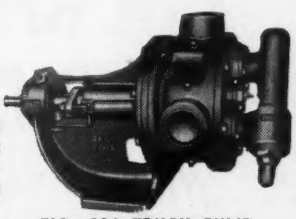

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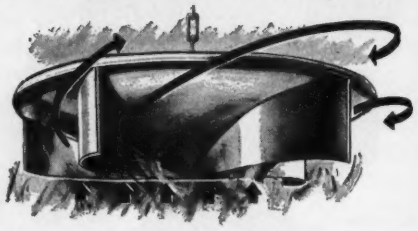

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asked Mrs. Blandings.

"Whatever went click," said Mr. Blandings.

"I gathered from you that nothing went click," said Mrs. Blandings.

"I didn't say nothing went click," said Mr. Blandings. "I merely said that—"

"You're always telling me I'm imagining things," said Mrs. Blandings. "You'd think I was living in a world of complete delusion."

Mr. Blandings put his book down on his knees. "Muriel," he said, "do we have to peck at each other this way all the time?"

Mrs. Blandings sighed a deep sigh. "I wish we didn't," she said. "We didn't used to."

Husband and wife looked at each other for a long moment.

"I guess I'm sort of keyed up these days," said Mr. Blandings. "If I'm short with you, I'm sorry. I don't mean to be."

"That's all right," said Mrs. Blandings. "I guess I'm short with you, too. I guess it's . . ."

Whatever had gone click before now went snap.

Mr. Blandings sprang up, eager to translate his apology into action. "I'll find out what that is," he said, in the spirit of St. George, and made for the wing of the house that contained the kitchen, service quarters, and access to the cellar. He gave his wife a little pat on the top of her head as he went by her chair.

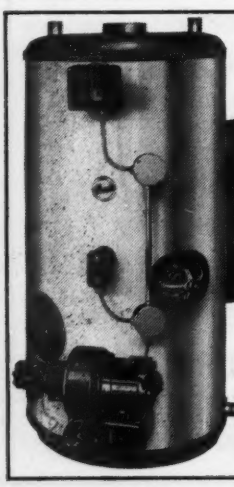
He went down to the cellar bumping his head at the bottom door.

He unsprung himself, rounded the turn at the bottom of the stairs, and, with some force, kicked a carton of empty fruit jars that lay against the wall. Then he made for the oilburner.

He did not know why, but he was sure he would gather wisdom at the oilburner. It was, so the salesman had once assured him, the Heart of the Home, without which even the finest dwelling was a cold, lifeless shell. Obviously, then, it was a place to begin looking for clicks and snaps, or other slight but important evidences of malfunction. He could see it in the distance, the beautiful thing, lacquered a stylish light-brown with a blue carriage-stripe trim simulating dainty bowknots at the corners, as if it were a great big Christmas package artfully tied by the gift-wrap section of a fussy department store. But before he could reach it, he encountered a distraction. At his left was a door that should have been closed, but was ajar, and a room that should have been dark, but was alight.

Inside this door Mr. Blandings found much canned fruit, and a case of whiskey called "Old Supine: A Blend of Superfine," which was one of the products his agency helped to advertise. One of the handsome bottles had been opened and was easily reached. He found an empty fruit glass and filled it a little more than half-full of Old Supine.

He poised himself and then with a practiced gesture flung the glass and his head backward in perfect coordination. The Old Supine, as it flashed past his glottis, shook his entire frame from neck to ankles. He breathed cautiously through rounded lips for a moment; then, daring to resume normal respiration, he squared his shoulders and made for the oilburner. In a moment, he



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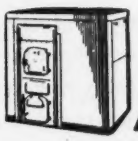

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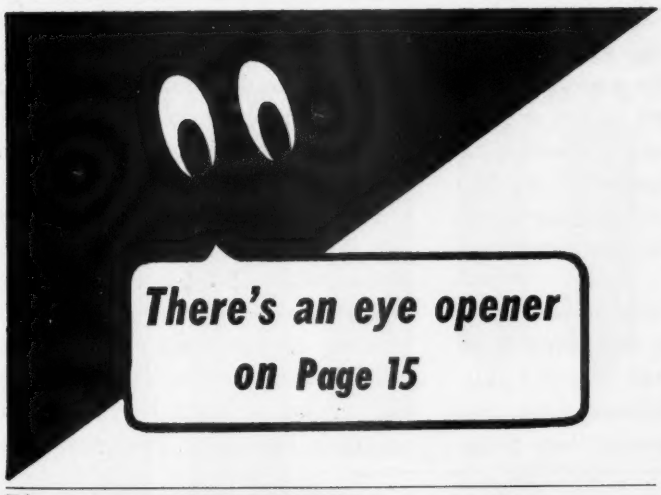

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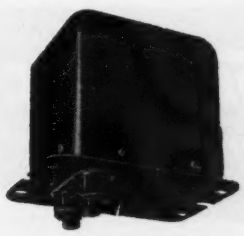

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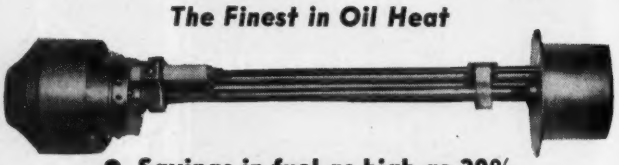

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knew, the nagging cares of life would soften and melt a little, and he would be what he wanted to be: a man competent and serene and unafraid; a man who could grapple with clicks and snaps in his own home and conquer them, and slay them, and lay them at the feet of his mate and say, "There now."

By the time he reached the oilburner, he felt precisely like this, except a little more so.

Mr. Blandings stood in front of the oilburner and gave it a man-to-man appraising look. It issued a remote-sounding roar of vast controlled power, and through a small round window of some high-fusing plastic, he could see the shimmering flames of Hohmheet oil in happy vaporization. Everything about the oilburner was as trim and tidy and high-functioning as a battle cruiser awaiting an admiral's inspection. With a total lack of fuss, it was pouring thousands of cubic feet of heated air into the upstairs of the Blandings' house. Yet it itself was cool, almost chill, to the touch, so efficacious was the Kozy-Dozy Sana-Kuhl Best-Oss insulation with which, so a delicate brass plaque testified, its walls were packed.

Instantly, Mr. Blandings realized he had started on a false scent. He had begun to prowl for something that had gone click; that, gathering strength and ferocity, had then gone snap, and might, any instant now, go whack or boom unless dealt with decisively. But the oilburner was not the answer. The oilburner was guaranteed, so another plaque expressly stated, to function perfectly without any human attention for the next quarter century—and nothing about its present conduct seemed to indicate any slightest lapse. The plaque made clear that the guarantee was void "in the event of a direct hit by any shell, bomb, rocket, or other missile, whether atomic or nonatomic," but this would not happen tonight; Mr. Blandings, the slug of Old Supine expanding his capillaries everywhere, was certain of what.

Moreover, there was nothing on or about the oilburner that could be in any way manipulated; it was a masterpiece of the sort of streamlining that particularly characterizes those things designed to be completely immobile; its only protuberances were a couple of glossy chromium swellings, obviously designed for ornamentation and not to be pushed, pulled, twisted, or in any way fooled with. Mr. Blandings dismissed the oilburner with a cordial wave of the hand; he must turn his attention elsewhere.

There are no more references to oil-heating in the book, but it is well worth all the reading time you can give it. The "click" that worried Mrs. Blandings, incidentally, was stopped by a precocious daughter a few minutes later when she discovered that it was caused by a venetian blind cord swaying slightly in the breeze above a warm air duct. Mr. Blandings forgot all about the click during a long cellar bout with Old Supine.

Mr. Blandings' life is a fascinating one to the casual reader. A likeable, wistful man, he buys a small town weekly newspaper (the goal of all advertising copy writers) and his financial loss and complete disillusionment are harrowing indeed. He buys a cow to supply his family with fresh milk,

ONLY McCORKLE CONTROLS

for Vaporizing Oil Burners

give you this combination of vital features

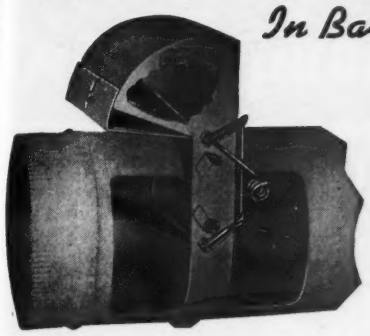
- **Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of *extra* power.**
- **More rapid heat transmission.**
- **Snap acting Micro-switch.**
- **Heavier, more rugged construction.**
- **Less service—greater customer satisfaction.**

We will gladly furnish literature and specifications for your particular requirements. Write us today!

D. H. McCORKLE CO.
Box E, Station A Berkeley, California

Your Customers Best Buy

In Barometer Controls



Cole Draft Governors are made for every type and size of heating and power plants. Fully automatic . . . simple and positive in action . . . a proven fuel saver. You might pay more but you won't get a better control.

COLE DRAFT GOVERNOR

This popular No. 909 Draft KoreKtor is favored for its fuel-saving ability. Large unrestricted opening maintains proper draft control at all times. These are now equipped with the new finger-tip adjustment and precision-fitting blade. Wide range of sizes for domestic heating installations.

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HOT WATER BASEBOARD RADIATION

The lowest cost hot water heating system. Radiation packaged in 6 convenient sizes. All you need know is the amount of radiation needed . . . Floorlevel is shipped ready to install! You can order complete radiation, including: Fin type copper heating element, front panel, top moulding, wall brackets, inside corners, outside corners and terminals and splices. Or . . . best of all . . . the

COMPLETE HEATING SYSTEM

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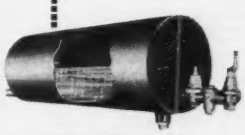

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A "MUST"

in all types of Baseboard Hot Water Heating installations. When properly installed, a positive eliminator of air.

SEND FOR SPECIFICATION 56

GENERAL Automatic PRODUCTS CORP.

GENERAL AUTOMATIC PRODUCTS CORP.
2300 SINCLAIR LANE BALTIMORE 13, MD.

MAR-COIL SILENCERS

PREVENT WATER HAMMER!

MAR-COIL SILENCERS

SIZE	Cubic Inches of Cushion
½" Type A	9 cu. in.
½" Type B	17 cu. in.
¾" Type C	33 cu. in.
1" Type D	55 cu. in.
1¼" Type E	103 cu. in.

ELIMINATES WATER HAMMER FROM HOT OR COLD WATER LINES!

Eliminate dangerous and annoying water hammer with MAR-COIL silencers. Available in five sizes to correct every job. Install easily in upright position and require no adjustment. Made of all polished brass and copper. For Homes, Apartments and Industry. On Tankless Heaters, Washing Machines, Dishwashers, Pumps, etc. Install as near as possible to the fixture that hammers.

We also make: BOILER STANDS • FUEL OIL TANK GAUGES • TANKLESS HEATERS • TEMPERING VALVES • STEAM MOTORIZED GATE VALVES

MAR-COIL HEATER CO.
200 PATERSON PLANK ROAD, UNION CITY, N. J.

AUTOCRAT OIL BURNERS

OFFER

HEAT

PLUS

ECONOMY

FOR YOUR CUSTOMERS

with the NEW COMBUSTION HEAD

This famous Autocrat Line is one of the oldest and finest in America. As a Dealer, you can safely recommend Autocrat Oil Burners to your customers. You may promise efficiency, dependability and economy . . . and Autocrat with the new Combustion Head will live up to your promises. Write at once for prices and liberal Dealer discounts.

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Authorized AUTOMATIC HEATING PARTS

REBUILDING & EXCHANGE SERVICE

The "Bercor" Advantages provide a dependable *one stop* center for all your parts servicing needs. "Bercor" offers the completest coverage in the Midwest of nationally known manufacturers' parts and equipment. Write for our new parts catalog and price list today.

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hires a man to take care of the cow, and the man, in turn, deprives the family of the milk while trying to build up a one-cow dairy business, thus causing Mr. B. more financial loss. His daughters frighten him; his neighbors exasperate him. He lives under a guilt complex with a nagging worry that he is not worth the $30,000 a year he is being paid for writing advertising, yet becomes more and more valuable to his organization and is finally made a partner, because of his power and facility with words. In the end, though, he sells the house at a nice profit, and moves back to a cozy city apartment.

Blandings Way by Eric Hodgins. Cloth bound, 314 pages. Published by Simon and Schuster, Rockefeller Center, New York 20, N. Y., October 1950. Price: $3.00 per copy.

❖

T. A. Aldridge and *James K. Eagan* have been appointed director of industrial relations and general counsel, respectively, American Oil Co., Baltimore and two subsidiary companies. The company also announced the appointment of *C. H. Thompson,* former company counsel, to the position of assistant to the vice-president in charge of sales.

Gordon Steinhoff has been named manager of the Aircraft Div., General Controls, Glendale 1, Calif.

George W. Watts, director of engineering, manufacturing department, Standard Oil Co. (Ind.), has been elected a fellow of the American Society of Mechanical Engineers for "acknowledged engineering attainments."

Charles R. Holzworth has advanced from vice president and general manager of the Tonowanda Iron Div., American Radiator & Standard Sanitary Corp., Pittsburgh, Pa., to the position of president of the division. He succeeds B. S. Stephenson, retired on the company's retirement plan.

S. E. Biggs, Cincinnati, and *James A. Bardsley,* Berkeley, Calif., have been elected vice-president, The Trailmobile Co., Cincinnati, manufacturers of commercial truck-trailers. Mr. Biggs heads up the company's manufacturing operations in its 4 plants; Mr. Bardsley is in charge of Pacific Coast operations.

F. J. Rudolph has replaced W. J. Bruce, who retired on December 31, as head of the Kansas City, Mo. sales district for Perfection Stove Co., Cleveland 4, Ohio. Since 1913 Mr. Rudolph has been associated with the marketing of Perfection products, having worked for Standard Oil of Indiana in the days when the organization was distributing Perfection kerosene products throughout the world. Following World War I he transferred to Perfection's sales staff and soon became sales supervisor for the Kansas City district. In 1931 he transferred to Jersey City, N. J., became chief clerk and office manager.

Sure, you'd like to eliminate downdraft problems!

You're bound to run into trouble now and then with jobs that cause too much soot, and waste heat because of tricky downdraft. THERMCAP will help you eliminate downdraft trouble completely—it controls draft at the top of the chimney, and keeps flues dry and soot-free. Try THERMCAP on your most troublesome job—you'll see immediate combustion improvement, and a definite saving in fuel. Satisfaction is guaranteed! Write for profitable dealer offer and literature.

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"X" BOILER LIQUID

Since 1916 the Industry's outstanding product for repairing leaks in high and low pressure steam boilers and hot water heating systems. "X" is a colloid, contains no harmful solids. Its repair is lasting and certain because it is made from the outside in, through the metal line of the boiler and will not break down due to expansion or contraction.

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PREFERRED Anti-Syphon Valves

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APPROVED BY

UNDERWRITERS' LABORATORIES, INC.

Permits pumping of oil but closes to prevent syphoning in case of suction line break.

FOR OILS UP TO No. 5
Valves C5 and C10 are available in ⅜" and ½" sizes.

FOR OILS UP TO AND INCLUDING No. 5
Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

FOR OILS UP TO AND INCLUDING No. 6
Valve A is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.

You can be sure of the best when you order from Preferred, the oldest and the largest manufacturer of anti-syphon valves.

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for

BASEMENT or UNDERGROUND

Price domestic fuel oil storage tanks are manufactured to Underwriters specifications and bear Underwriters labels.

Obround Basement (Vertical or Horizontal)			Round Underground		
Cap. in Gals.	Gauge	Size	Cap. in Gals.	Gauge	Size
275	14 or 12	27 x 44 x 60	285	12	38 x 60
220	14 or 12	27 x 44 x 48	550	12	46 x 76
235	14 or 12	22 x 44 x 60	1000*	10	52 x 110

*Temporarily out of stock.

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FOR Quality INSTALLATIONS

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BOSTON MACHINE WORKS COMPANY
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They are designed to be installed easily and quickly in dark or close quarters . . . and they cannot fall off when blower or pump units are serviced. Here is positive correction for mis-alignment, shock, surge, vibration, backlash . . . with extreme quiet. Use these maintenance-saving couplings for pumps, fans, blowers, power transmission from motor to equipment. Most fan manufacturers supply blowers with L-R jaws on blower hubs at no extra cost.

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OHI
LOVEJOY FLEXIBLE COUPLING CO.
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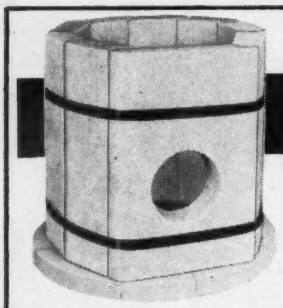
Mfrs. of Lovejoy Flexible Couplings for all industrial services. Lovejoy Variable Speed Transmissions and Lovejoy Universal Joints.



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AMERICAN COMBUSTION CHAMBERS

100% "KILN-CURED" LIGHTWEIGHT REFRACTORIES

HIGH QUALITY

American Chambers are made from the finest, high grade refractory materials combined with proper "Kiln-curing". They will withstand 2500 degree temperatures and will not crumble in water.

EASY INSTALLATION

Controlled manufacturing and careful design of American Chambers makes for fast and easy installation. The flexible pieces fit together with a minimum of effort.

TOP PERFORMANCE

Because of the high quality of materials used in American Chambers they provide faster heat-ups, quieter burner operation and savings in fuel.

JOBBERS: Write today for price sheet.

AMERICAN CLAY FORMING CO.

TIFFIN, OHIO

Heating Show

(*Begins on page 70*)

	Space No.
Tilo Roof. Co., Inc., Glasfloss Div.	447
Titus Manufacturing Corporation	234
Trane Company	250-350-450-650-750
Triad Products Corporation	647
Trion, Inc.	98
Turb-O-Tube Furnace, Inc.	935
Tuttle & Bailey, Incorporated	613
Typhoon Air Conditioning Co., Inc.	1
United States Air Cond. Corp.	118 & 824
U. S. Machine Corporation	10
U. S. Rad. Corp., Pac. Steel Boil. Div.	909
United States Radiator Corporation	110
United States Register Co.	733
United States Steel Corp.	740 & 839
United States Steel Export Co.	740 & 839
United States Steel Supply Co.	740 & 839
V. & E. Products, Inc.	136
Vibration Eliminator Co., The	65
Viking Air Conditioning Corporation	410
Viking Manufacturing Corporation	918
Vulcan Radiator Company, The	701
Wagner Stoker Boiler Unit	147 & 150
Walton Laboratories, Inc.	714
Waterfilm Boilers, Inc.	50
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XXth Century Heat. & Vent. Co.	217
Yarnall-Waring Company	705
Yates-American Machine Co., General Refrigeration Division	719
York Corporation	800
Young Radiator Company	925
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❖

Fred J. Laughna, formerly Chicago regional manager, has been named administrative assistant to the vice president, Airtemp Div., Chrysler Corp., Dayton, Ohio. At the same time, *Homer D. Day,* formerly Boston regional manager, became manager of the Chicago region and *Taylor U. Cowger* succeeds Mr. Day at Boston. Mr. Laughna joined Chrysler in 1933, moved to Airtemp in 1940 as assistant merchandising manager. By 1947 he was manager of the Dayton region, later moved to Detroit and Chicago as regional manager. Mr. Day, with Chrysler since 1940, moved to Airtemp in 1946 as district representative in Dayton. He later became manager of the region, then St. Louis and later regional manager of the Boston region. Mr. Cowger came to Airtemp in 1947 as district representative in New Orleans and in September of that year became manager of the region. In 1949 he was named sales manager of Stokol Stoker, a Chrysler subsidiary, and after that a special representative.

J. W. Pegg has been named vice president, Shell Development Co., research affiliate of Shell Oil Co., New York 20, N. Y. He joined Shell in 1937 as an attorney, occupied positions of increasing responsibility in the legal and marketing departments and in 1945 became executive assistant to the vice president, marketing. Two years ago he was named manager of the St. Louis marketing division and in 1949 became manager of Shell Development's New York office.

SAVE with FUELGUARD

Remote Reading Tank Gauges

Installed in the suction line of the pump, FUELGUARDS almost eliminate installation expense.

LOW, LOW price, plus dependable accuracy, make a FUELGUARD a "must" in every oil burner installation.

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WALL FLAME and HORIZONTAL WATER TUBE BOILERS

COMPACT — EFFICIENT — QUIET

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PROMPT DELIVERY FROM LOCAL STOCKS AT MOST POINTS.

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The answer, of course, is Lexington's loan on his receivables.

If you want a source of ready cash on your receivables, investigate the Lexington plan.

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M. S. Lurio, Pres.

Fuel Financing from Maine to Maryland

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New York, N. Y. Baltimore, Md.

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MILOS SYSTEM DEVICES REG. U.S. PAT. OFF.

WHAT IT DOES:

- Helps remove soot.
- Increases B.T.U.'s.
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- Retards rust and corrosion.

Write for prices and dealer discounts!

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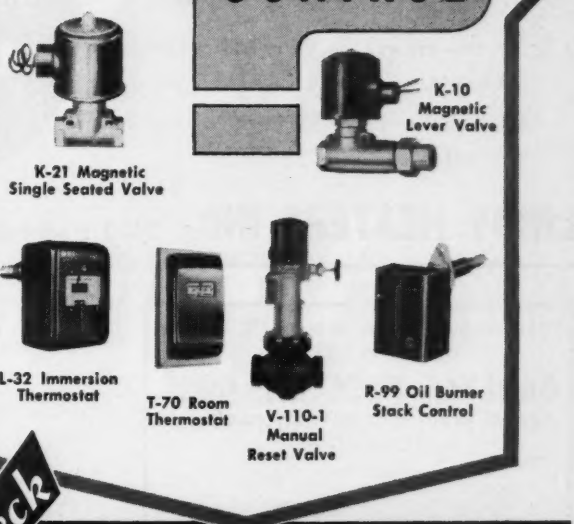
K-21 Magnetic Single Seated Valve
K-10 Magnetic Lever Valve
L-32 Immersion Thermostat
T-70 Room Thermostat
V-110-1 Manual Reset Valve
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2 PROVEN PROFIT MAKERS

The QUALITY OIL BURNER

•A size for every job • Capacity .75 to 20 G. P. H. • Adaptor flanges to fit boiler or furnace units • GE or Ohio motor • MH controls • Service-free • Stays sold.

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The QUALITY CONVERSION GAS BURNER

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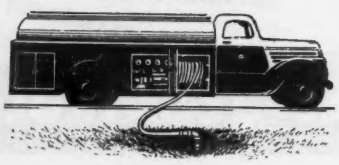

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Check These Advantages

- OIL AND AROMATIC GAS RESISTANT SMOOTH TUBE PROVIDES FULL-FLOW.
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50 ft. ..	28.60	34.50	47.00	57.75
75 ft. ..	42.10	50.75	69.25	85.00
100 ft. ..	55.60	67.00	91.50	112.25
125 ft. ..	69.10	83.25	113.75	139.50

Prices shown above include Scovill type Male and Female Iron Pipe Thread Couplings Attached.

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SOLID BRASS NOZZLES for FUEL OIL & GASOLINE DELIVERY SERVICE

EXTREMELY LOW PRICED—$10.00

1¼" "Wheaton" #150, Fuel Oil & Gasoline Delivery Nozzles with Five Special Features—

1. Solid Brass Construction.
2. 15" Flexible Spout x 1" Opening.
3. Dual valves assure smooth even flow.
4. Bushing furnished to alter to 1" or 1½" lines, if desired.
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TERMS: 2% 10 Days to rated firms, otherwise C.O.D.

ALL PRICES SHOWN INCLUDE DELIVERY TO DESTINATION

CARLYLE RUBBER COMPANY, Inc.

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DEGREE DAY TABLES

ONE MONTH ONLY					SEASON TO DATE			
	November		Percent		(Sept. 1 to Nov. 30)			Percent
Normal	1949	1950	Change*		Normal	1949	1950	Change*
756	837	707	— 6.5	Albany	1282	1388	1302	+ 1.5
393	408	544	+ 38.4	Atlanta	535	481	596	+ 11.4
531	488	497	— 6.4	Baltimore	795	640	705	— 11.3
651	644	512	— 21.4	Boston	1087	979	942	— 13.3
747	811	777	+ 4.0	Buffalo	1282	1290	1256	— 2.0
709	743	843	+ 18.9	Chicago	1127	1147	1070	— 5.0
613	536	736	+ 20.1	Cincinnati	939	768	892	— 5.0
688	710	780	+ 13.4	Cleveland	1134	1035	1092	— 3.7
298	200	347	+ 16.4	Dallas	373	320	352	— 5.6
721	425	714	— 1.0	Denver	1260	952	1005	— 20.2
768	672	929	+ 21.0	Des Moines	1224	1112	1187	— 3.0
753	782	849	+ 12.7	Detroit	1249	1234	1239	— 0.8
768	776	869	+ 13.1	Grand Rapids	1327	1266	1248	— 5.9
691	728	607	— 12.1	Hartford	1165	1117	1105	— 5.1
940	754	1177	+ 25.2	Helena	1829	1846	2065	+ 12.9
162	120	171	+ 5.5	Houston	189	153	171	— 9.5
663	636	813	+ 22.6	Indianapolis	1027	945	1034	+ 0.7
599	459	720	+ 20.2	Kansas City	891	733	870	— 2.4
110	66	104	— 5.4	Los Angeles	158	120	106	— 32.9
550	558	702	+ 27.6	Louisville	802	777	842	+ 5.0
788	801	964	+ 22.3	Milwaukee	1317	1314	1370	+ 4.0
943	836	1113	+ 18.0	Minneapolis	1590	1423	1571	— 1.2
147	135	219	+ 49.0	New Orleans	170	352	219	+ 28.8
600	552	519	— 13.5	New York	925	728	780	— 15.6
741	591	876	+ 18.2	Omaha	1147	1148	1155	+ 0.7
544	541	509	— 6.4	Philadelphia	815	705	760	— 6.7
656	621	731	+ 11.4	Pittsburgh	1049	933	1013	— 3.4
792	862	699	— 11.7	Portland, Me.	1430	1520	1495	+ 4.5
540	369	510	— 5.5	Portland, Ore.	947	860	951	+ 0.4
675	644	512	— 24.1	Providence	1142	975	947	— 17.0
531	536	653	+ 23.0	Roanoke, Va.	809	769	886	+ 9.5
558	480	769	+ 37.8	St. Louis	812	725	896	+ 10.3
712	529	645	— 9.4	Salt Lake City	1184	1047	935	— 21.0
242	161	131	— 45.8	San Francisco	504	485	360	— 28.5
965	1050	1041	+ 7.8	Sault Ste. Marie	1860	1912	1903	+ 2.3
358	405	541	— 3.0	Seattle	1104	1001	1051	— 4.8
721	755	872	+ 21.0	Toledo	1188	1221	1258	+ 5.8
558	502	520	— 6.8	Washington	855	673	726	— 15.0

*Compared with normal. Note: Above figures secured from Monthly Meteorological Summaries published by U. S. Weather Bureau offices in individual cities.